PHILADELPHIA, APRIL 9, 1881.

ORIGINAL COMMUNICATIONS.

REMARKS UPON CLINICAL PHASES OF POISONING BY ALCOHOL.

Read before the Philadelphia County Medical Society, January 12, 1881,

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"CHINESE historians affirm that wine in which the feathers of the Tchin are macerated becomes a deadly poison."* Modern science confirms this clinical observation, but ascribes the fact to a more constant and less fabulous cause. Alcoholic liquors are poisonous because they contain alcohol. Since the various intoxicating beverages in use consist essentially of dilute ethylic alcohol, their toxic effects may be considered in common under the comprehensive title of alcohol-poisoning.

From the universality of the use of these beverages by all races† of men and in all ages, it would at first sight appear that alcohol might be a valuable food. So it was considered by Liebig; whose views were, however, entirely controverted by Perrin, Lallemand, and Duroy, who showed that it was excreted by the lungs, the kidneys, and the skin without undergoing oxidation in the body. Later observers, notably Subbotin, have shown that the ingestion of alcohol does not increase the excretion of carbonic acid, but, on the contrary, reduces it; does not raise the daily amount of urea, but lowers it; does not increase the temperature of the body, but positively reduces it; and does not increase hæmatosis, but, on the contrary, interferes materially with the blood-making function. Such effects are certainly not those of a food, but of an agent which directly impairs nutrition. Anstie and Dupré declared that a certain amount of alcohol disappeared in the passage through the system, and believed that this comparatively small amount was assimilated as food. Parkes and Wollowicz subsequently determined the maximum amount that could be thus assimilated by a healthy man to be from one and a half to two ounces of absolute alcohol per diem.‡ The latter observers found that when an amount of liquor corresponding with only one ounce of absolute alcohol was administered, no alcohol could be detected in the urine. Upon repeating these experiments, however, I found, in an adult of temperate habits, that so small a quantity as one-fourth of the above gave decided evidence of its presence in the urine; and I believe Anstie also detected alcohol in the urine after a single glassful of sherry. Possibly, this may be explained by idiosyncrasy, but it seems more probable that the person experimented upon by Parkes and Wollowicz had by habit acquired the power of consuming a greater quantity than could be assimilated by an organism unaccustomed to its use.

I am, therefore, forced to the conclusion that alcohol is not a true food in the sense that it favors nutrition in a state of health. Of its value as an accessory food under certain emergencies I shall not speak at present, as it is not germane to our subject; nor shall I enter upon a consideration of the dietetic use or abuse of alcohol. I have broached the subject of its use in health merely in order to establish, if possible, the commencement of its toxic effect. From personal experiment I have concluded that the standard adopted by recent experimenters of one ounce and a half to two ounces of absolute alcohol is rather above the average amount which can be assimilated by the healthy organism, unless given in frequent and very small doses. Alcohol is eliminated slowly from the system, except when excessive amounts have been taken; it then rapidly appears in the urine, in which traces of it usually continue for from sixteen to twenty-four hours. In one case, within ten minutes after drinking about four ounces of whisky, a quantity of limpid urine was passed, whose specific gravity was only 1001½; it evidently contained considerable alcohol.

Of the fact that alcohol, in certain

* I. Klaproth, Lettre à M. Humboldt sur l'Invention de la Boussole, p. 89. Quoted by Thompson in "The Philosophy of Magic," vol. i. p. 41, London, 1846.

† The Mohammedans and Hindoos have been cited as exceptions to this rule because such use is forbidden by their religion; but no one will claim that therefore drunkenness is entirely unknown among them.

‡ The equivalent of alcoholic beverages for a healthy adult, as stated by Parkes, is as follows: two fluidounces of brandy, or five ounces of the strong wines (sherries, etc.), or double the quantity of the weak wines (clarets and hocks), or twenty ounces of beer. "If these quantities be increased one-half, one and a half ounces of absolute alcohol will be taken, and the limit of moderation for strong men is reached." Parkes's Principles of Hygiene, 5th ed., Philadelphia, 1878, p. 298.

amounts, is capable of causing death, there can be no question whatever: on this point all writers upon toxicology are agreed, and numerous cases might be cited in proof. Tardieu, for instance, records a medico-legal case where a man was induced by a wager to drink within a short time a bottle of brandy. He accomplished the task, fell to the floor in a state of coma, and died in sixteen hours.*

In its concentrated forms, when taken into the stomach, alcohol may cause death from local action upon the mucous membrane, producing softening and abrasion and violent gastro-enteritis. Two table-spoonfuls of sixty per cent. strength have proved sufficient to cause the death of a child.† As in other remedies, different effects may be expected when exhibited in the single toxic dose, in the interrupted dose, and in the continued dose. For convenience of discussion, although not exactly synonymous, let us consider the clinical accidents arising from the first two under the head of acute alcoholic poisoning, and those of the latter under chronic alcoholism. In so doing we shall follow the dictum of Magnus Huss, who first called the attention of the profession to the symptoms of chronic alcoholic poisoning under the title of alcoholism.‡

Let us first consider the effects of acute alcohol-poisoning, where coma, with complete muscular resolution, exists. Since this condition often terminates fatally, it is important to distinguish it from insensibility from other and widely different causes, such as cerebral apoplexy, hysteria, uræmic coma, opium-poisoning, concussion of the brain, and similar conditions. Dr. H. C. Wood says that "when the patient is simply seen in the advanced stage of deep coma an absolute diagnosis cannot be made out."§ I think, however, that by attention to the objective conditions we may make a tolerably certain diagnosis by exclusion. Without taking up each of these different diseases with which alcoholism may be confounded, let me say, in brief, that, while in this condition coma and complete muscular prostration may exist, there is no difference between the two sides of the body as regards muscular tonus or surface-temperature; the latter is below rather than above the normal. More especially is it to be noted that there is no hemiplegia. The pupils are not constant; generally they are moderately contracted; before death they may dilate. There is no conjugate deviation of the eyes, as often occurs in apoplexy and injuries of the brain. Hemorrhage into the pons Varolii, however, is said to be accompanied by contracted pupils, coma, and general muscular resolution. The pupils in cerebral hemorrhage are usually irregularly dilated. MacEwen, of Glasgow, recommends the alteration which occurs in the pupils when the patient is disturbed as a reliable sign of alcohol-poisoning. The pupils in such a case will dilate temporarily if the patient be shaken or his beard pulled. This merely proves that the condition is rather one of deep stupor than of complete coma. I cannot believe that a case of true coma would have a mobile pupil, or, if it should dilate under such circumstances, that it could afterwards again contract.

I have not mentioned as distinctive the test commonly relied upon, *i.e.*, that furnished by the alcoholic odor of the breath. Where it exists it furnishes confirmative rather than conclusive evidence, since the individual may have taken a stimulant just before the attack of illness, or it may have been administered afterwards. It thus becomes a nice question to decide in some cases whether it is alcohol or disease, or both. A much more reliable test is furnished by the urine. In all cases of narcotic poisoning the bladder, as a matter of routine treatment, should be evacuated by a catheter. The urine may be tested for alcohol by adding to it a small quantity of chromic acid test (potassium bichromate one part, acid sulphuric three hundred parts), as proposed by Anstie. But I would recommend the adoption of a slight modification, which has yielded very satisfactory results in the few cases in which I have tried it, as follows. In a medium-sized test-tube about a drachm of clear, colorless sulphuric acid is placed, and about three times the quantity of the urine to be tested is then to be poured down the side of the test-tube, so as to prevent immediate mixing of the fluids; a small crystal (split-pea-sized) of potassium bichromate is then dropped into the tube, which is then given a gentle rotary motion, so as to dissolve a little of the bichromate and diffuse it through the sulphuric acid.

* Clinique sur l'Empoisonnement, p. 848. Paris, 1867.
† Deutsch's case, Schmidt's Jahrbücher, Bd. xxv.; from Preuss. Vereinzeitung.
‡ Die Chronische Alcoholkrankheit, Stockholm, 1852.
§ Therapeutics and Materia Medica, 3d ed., p 125.

The tube is then set aside in the rack. The limpid lower stratum of liquid will in the course of from a few minutes to an hour assume a decided emerald-green coloration, the depth of the color being proportionate to the amount of alcohol. This test may be confirmed by fractional distillation, provided that enough alcoholized urine can be secured to render it practicable.

In attempting to differentiate these cases from those of apoplexy, it should not be forgotten, however, that alcohol stands in a direct causative relationship to cerebral hemorrhage, as autopsies have proved. In seven cases of death during acute alcoholism, Tardieu* found two with hemorrhages into the lungs, meningeal apoplexy in six, and in four there were also ventricular effusions of blood. This authority concludes that "in death coming on rapidly during the state of drunkenness, pulmonary apoplexy, and especially meningeal apoplexy, are lesions which, if not constant, are at least extremely frequent and almost characteristic." Hughlings Jackson reported a case in which alcohol impregnated not only the breath but the urine, and at the post-mortem examination a large clot was found covering nearly the whole of one hemisphere. The question of treatment of these cases I reserve for discussion farther on.

In other cases of acute poisoning by alcohol, convulsive symptoms supervene, and occasionally epileptiform seizures are very marked, probably owing to the action upon the medulla oblongata of blood deficient in oxygen. I have seen but one case of this kind, which occurred in a mulatto some years ago. After taking from the arm about ten ounces of extremely dark blood, the convulsions ceased and did not return. The next day the man was apparently as well as usual and ready for another spree. In this connection I may also be permitted to mention a case of catalepsy in a slender young man, about nineteen years of age, who came under my care some eight years ago, while resident physician in the Pennsylvania Hospital. He was brought to the institution perfectly unconscious and perfectly rigid. I remember there was some difficulty in getting him out of the carriage, as his body was fully extended, and he was carried in supported by his heels and his head. I found that on forcibly placing his limbs in any position they would remain thus extended in the air as if they were frozen. Upon lifting the closed eyelids the eyes were seen to be rolled upwards and constantly in motion (nystagmus); the pupils were dilated moderately. It was said that this condition came on after drinking a single glass—his first glass—of whisky, and that he was not subject to such attacks. The application of faradic electricity quickly restored the patient to consciousness, and he would gladly have gone home at once if he had been permitted; but he was kept in bed until morning, and then discharged perfectly well, no further treatment being required.

I now come to speak of a form of acute poisoning from the abuse of alcohol, with which all are familiar, the so-called mania a potu, or delirium ebriosum. I will not, therefore, weary you with any reference to cases. Let me say, however, in a word, that the distinguishing trait of this condition is that it occurs as a result of an overindulgence in alcohol in an organism unaccustomed to its use: it is the form that appears in men who go on occasional sprees, with periods of temperance or total abstinence between. Such cases have active delirium, characterized by delusions and homicidal tendencies. The condition is characterized by great nervous and vascular excitement, the face is flushed, the eyes bright, the egò elevated. The diagnosis and .prognosis are based solely upon the history of alcoholism, for to all intents and purposes the patient is suffering from acute mania. When this condition is compared with chronic alcoholic poisoning and, in its characteristic form, delirium tremens, a marked contrast is seen to exist. This condition, as originally described by Sutton, is essentially one of nervous and vascular depression. The face is pale, the eye dull, there are illusions in place of delusions, a suicidal tendency takes the place of a homicidal, and melancholy replaces mania. Sleeplessness exists in both, but in one it is due to cerebral congestion, in the other to cerebral exhaustion. Tremor of the muscles is a marked symptom of the latter, and gives it its name.

I shall not here attempt a detailed consideration of the various diseased states that are associated with chronic alcohol-

* Observations médico-légales sur l'Etat d'Ivresse considéré comme Complication des Blessures et comme Cause de Mort prompte ou subite. Ann. d'Hyg. Publique et de Méd. Légale, tome xl., 1848, et Dict. de Méd. Prat., *loc. cit.*

ism, since many of them are only indirectly due to it. In the words of Boehm,* "The poison of alcohol, either alone or combined with other pathological causes, produces bodily or mental diseases which in themselves afford nothing characteristic of the effects of alcohol." That it is a most fruitful source of disease, both physical and mental, all authorities are agreed, the tendency of alcohol being to cause fatty degeneration and sclerotic changes in all the soft tissues of the body. Nor shall I essay the enumeration of the various diseases attributed to alcohol; in the words of Bartholow, they may be summed up as "sclerosis and steatosis."

The point, however, that I would now insist upon, and which I consider has a most direct bearing upon the treatment of alcoholism, is this: the long-continued existence of alcohol in the blood produces important changes in nutrition, to which the system in a measure accommodates itself, so that the patient requires less food to support life than without the alcohol (as in a case quoted by Anstie,† where a tailor drank a bottle of gin daily for years, and who took in addition a small piece of bread each day as his only sustenance). In such cases it cannot be doubted that alcohol plays the rôle of an accessory food, and changes take place, converting the organism into an alcohol-burning apparatus, and correspondingly unfitting it for the ordinary carbo-hydrates and hydro-carbonaceous food. This will, I think, serve in a measure to explain why depriving a drunkard of his drink may cause a sudden failure of nutrition with the rapid appearance of an outbreak of delirium, denotive of cerebral exhaustion, and characterized by failure of mental power, hallucinations, prostration, and muscular tremor. Let me repeat the fact that in health, if at all, only very small amounts of alcohol are consumed by the system, but in chronic alcoholism the tissues have undergone such changes as to confer upon them the power to derive force from alcohol, which unfits them to a corresponding extent for normal nutrition.

The term delirium tremens was adopted by Sutton in a work published in 1811, in which he took especial pains to show that the symptoms were not due to phrenitis or meningitis. He showed also that bleeding and blistering were generally fatal, and that these cases need a supporting treatment, and especially opium.

Strangely enough, in "Ziemssen's Cyclopædia" (*loc. cit.*), Prof. Boehm, in referring to Sutton's work,‡ gives this author due credit for originality in the use of the term delirium tremens; but, on the other hand, he states that it was reserved for Rayer in 1819 to indicate alcohol as the prime factor in the etiology of the disease. It is quite evident that he had not read Sutton's tract on Delirium Tremens, or he could not have said that this author had overlooked its connection with alcoholic excess. Here is what Sutton, after reporting several cases, says:§ "It has been remarked in several of the above instances that the parties attacked by delirium tremens have been given to drinking; and I feel firmly persuaded that all cases of this disease are connected with indulgences of that nature." Could language be more plain and unequivocal than this? Again, he says,‖ "But that fermented liquors, and more especially spirits, are the general cause of the disease, is rendered certain by the frequency of it in situations where the indulgence of them can be had at a reasonable rate. On the coast of East Kent, where I was first led to distinguish this affection, and at the time alluded to, spirits brought in by smugglers might be had in great abundance at a cheap rate; and such as labored under delirium tremens in that quarter were mostly those who confessedly indulged in the use of spirits to excess."

Several varieties of delirium tremens have subsequently been indicated by industrious investigators which we cannot now consider, such as febrile delirium tremens, which, according to Magnan, generally runs a fatal course in a few days, and is probably connected with some local inflammation, such as meningitis. Nor need I discuss the uræmic form of Surmay.¶ Epileptic insanity may at any time occur as a complication. Dipsomania is undoubtedly a psychosis, often inherited, sometimes due to traumatism or severe mental shock, not necessarily dependent upon previous alcoholic excess. The clinical forms of confirmed alcoholism

* Ziemssen's Cyclopædia, Am. ed., vol. xvii., New York, 1878, p. 400.
† Stimulants and Narcotics, London, 1864, p. 451.
‡ Tracts on Delirium Tremens, on Peritonitis, and on some other General Inflammatory Affections, and on the Gout. By Thomas Sutton, M.D. London, 1813, p. 2.
§ Loc. cit., p. 47. ‖ Loc. cit., p. 50.
¶ De quelques Formes peu connues de la Cachexie alcoölique, etc., L'Union Médicale, pp. 19–21, 1868.

known to the alienist—such as pachymeningitis hæmorrhagica, general paralysis, melancholia, and hopeless insanity (hopeless because dependent upon sclerotic and fatty changes with atrophy of the brain)—are conditions belonging directly to our subject, but which need not at present engage our attention.

Let us, however, in conclusion, consider very briefly the therapy of the three forms most commonly encountered by the general practitioner,—*i.e.*, alcoholic coma, mania a potu, and delirium tremens,—a subject which has given rise to a good deal of controversy. In the first place I will consider coma. In rapidly-fatal cases of alcoholic poisoning, failure of respiration commonly occurs previous to cessation of the heart's action. Therefore, besides the ordinary treatment of narcotic poisoning by the use of the stomach-pump and purgative enemata, and the application of warmth to the extremities, it will be proper to fortify the action of the respiratory centres by the hypodermic administration of (gr. $\frac{1}{120}$) atropia with (gr. $\frac{1}{12}$) morphia, repeated at proper intervals. The urine should be drawn off, both for examination and to encourage the action of the kidneys. It may also be necessary to employ electricity and artificial respiration to assist the lungs in excretion of the surplus of carbonic acid, which now tends to accumulate in the blood. Indeed, Sampson, an English physician, in the treatment of such a case found himself obliged, as a last extremity, to resort to tracheotomy, which proved successful.*

Reginald Southey,† in a recent lecture on this subject, deprecates active measures, because if the case should happen to be one of hemorrhage into the pons Varolii, instead of one of alcohol-poisoning, such treatment would be improper; but since the cases of hemorrhage into the pons must be quite rare compared with those of alcohol-poisoning, and since they are invariably fatal under any method of treatment, I regard them as entirely out of the question, and should treat such a case as one of alcoholic coma. As soon as the patient has his stomach emptied by the stomach-pump, a pint of hot coffee may be thrown into its cavity and allowed to remain. Inhalations of ammonia will greatly assist in reviving the patient. An individual supposed to be insensible from alcohol should never be allowed to remain in a state of coma to sleep off a fit of drunkenness. Too often it proves his last sleep, either from carbonic acid poisoning or from secondary cerebral hemorrhage.

Acute mania induced by alcohol is commonly subdued by ether- or chloroform-inhalations and hypodermic injections of morphia. In such cases I have known a grain of morphia to be administered with only good results. The standard prescription for the minor forms of acute alcoholism is one containing bromide of potassium and chloral in decided doses, given every two hours until sleep is obtained. Where there is much arterial tension, the tincture of hyoscyamus or hyoscyamia has been highly recommended. Care should also be taken to give nourishment frequently, in a form easy of assimilation on account of the possible gastric inflammation. The patient will be found more manageable when confined to his bed, and it often becomes necessary to strap him down. During convalescence stomachic tonics to improve the digestion may be given. For this purpose occasional laxatives and tincture of capsicum, tincture of nux vomica, and compound tincture of cinchona may be used with advantage. To diminish the appetite for strong drink, a freshly-prepared fluid extract of cimicifuga with tincture of capsicum may be steadily employed, as recommended by Bartholow.

I will not dwell upon the treatment of delirium tremens further than to say that it requires pre-eminently a symptomatic and supporting treatment. Such cases generally suffer from numerous other evils, among which we notice prominently chronic gastric catarrh, owing to local action of the alcohol upon the mucous coat of the stomach causing atrophy of the peptic glands and increase of submucous connective tissue. Foods, therefore, which are digested in the small intestine, and peptones, are particularly required.

If I have correctly stated the conditions existing in acute and chronic alcoholism, I think it will be seen that good reasons exist why the administration of alcohol as a part of the routine treatment is as necessary in true delirium tremens and in chronic

* Article Alcoölisme, Nouveau Dict. de Méd. et de Chir. Pratiques, Paris, 1864.
† London Lancet, December 18, 1880.

alcoholism as it would be improper in acute alcoholic poisoning. I am fully aware that the routine administration of stimulants is not uncommon in these cases,—which is partly due, I think, to the fact that these states are often confounded clinically under the common title of alcoholism, although their different pathology is insisted upon by almost all the text-books. Then, if we separate clinically the effects of acute alcoholic excess from the condition of chronic alcohol-poisoning, with or without delirium, I believe that we are in a position to institute a rational treatment for mania a potu and delirium tremens.

To summarize:

1. Acute alcoholic poisoning, manifesting itself in the forms of coma, convulsions, and mania a potu, is characteristic of the physiological action of alcohol upon a system unaccustomed to its use. Its treatment, in cases of coma and convulsions, is like that of the other narcotic poisons producing paralysis of the respiration, but in mania powerful cerebral sedatives are required. During the after-treatment alcohol is not necessary, but, on the contrary, every encouragement, both by precept and by prescription, should be given the patient to adopt total abstinence as his only chance of safety.

2. Chronic alcoholic poisoning, exhibiting itself in the form of the horrors, vigilance, delirium tremens, or melancholia, on the contrary, bespeaks the existence of a depressed condition of the vital powers due to saturation of the system with alcohol, and consequent degenerative changes. Such unfortunate cases, suffering from what might be called an alcoholic diathesis, require careful nursing, a supporting treatment, and the continuance of stimulants, which to them have become both food and drink.

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Therapeutic Value of Tartar Emetic.—Dr. A. B. Arnold, of Baltimore, thinks this remedy has fallen into undeserved neglect. In inflammatory croup it is capable, if early used, of keeping it in the catarrhal stage and preventing its passage into the membranous form. He gives in these cases one-twelfth of a grain every hour to a child. In one case, aged six years, he gave one-fourth of a grain every hour, with excellent results.

THE PHYSIOLOGY OF CLIMATE, SEASON, AND ORDINARY WEATHER-CHANGES.

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(Concluded from page 395.)

THE true *cause* and *sequence* of the above-discussed physiological phenomena will now be apparent. One of the earliest and most important effects, if not the primary effect, of climate, season, and weather-changes, is on the blood. Through the re-distribution of this the many different tissues, organs, and functions are secondarily influenced. Of this these effects are merely the outward manifestation, the most important being in the organs of vegetable life, those of animal life being less important and of subsequent manifestation.

The *primary* object of the climatic law to which the entire circulation is so obedient is to adapt the body to altered meteorological conditions, and chiefly, first, to keep its temperature at a normal physiological or healthy standard (slightly different in different persons), reducing it in warm temperatures by spreading the blood out in shallow streams and thus cooling it partly by radiation and partly by evaporation, and in cold air to preserve the caloric by concentrating the blood in the interior and increasing the lung-function and blood-oxidation; second, to carry on the necessary blood-purification chiefly by the lungs, skin, kidneys, and liver,—that is, those organs which excrete useless or hurtful matters.

The *ulterior* object of this climatic law of the circulation is salutary and *hygienic*,—that is, meant to keep the body in health. The resulting physiological changes, both hæmatic and functional, are vicarious and compensatory. Proof has been given that frequent change of climate, season, and weather tends to increase both the ordinary and the vicarious action of the involved organs. These changes tend to assimilate the various tissues, organs, and functions of the natives of one zone to those of native races, to meet the requirements of the foreign clime for which they are not and perhaps never can be altogether physiologically fitted, not even the inhabitants of the temperate zone, who are gifted not only with the strongest constitution, but with the greatest vital resiliency and adaptability to thermometric changes.

These physiological changes mould the pliant human frame to varying meteorological conditions. In short, they tend to *acclimatize* the body and to induce what have been termed the spring, summer, autumn, winter, and also the tropic, temperate, and arctic or antarctic, *constitutions*. On the nice adjustment of this new balance of the circulation and functions we continually depend for health and comfort. Harmonious action is health. Its disturbance is disease. To maintain normal action the blood-flow into the different organs must not amount to more than the above percentage. If greater, the balance is broken, engorgement ensues, and disease results. This hyperæmia and overtaxed function—one or both—begin some of the most frequent and serious diseases that afflict the human race. Hence the importance of the study of the physiological laws of climate, and the value of a complete knowledge of their nature, extent, and mutual relations, especially for hygienic and therapeutic purposes.

Explained thus, the difference in the functional effects of this law arising from age, size, sex, and so on, will be readily understood. As with the spirometric capacity, these are most evident in those of largest frame, *e.g.*, in adults and males; in short, in those who have most blood and thereby show the greatest displacement.

The law also explains the slightly-raised temperature of the surface in warm atmospheres, from increased turgescence of the cutaneous capillaries, activity of the calorific and respiratory processes of the skin. And, as modern research is rapidly proving that increased or diminished activity of organs is accompanied by increased or diminished vascularity and temperature, so it may yet be proved that the temperature of internal parts is perhaps somewhat lessened by their vascular depletion.

The law explains why the pulse and general circulation are slower and feebler in high temperatures. The mass of blood, spread out in the congested and physiologically-active cutaneous capillaries, leaves less to stimulate the heart and those arteries by which the pulse is usually counted.

Since pathological are often merely an exaggeration of physiological processes, it is interesting to notice how fully the above-mentioned phenomena are endorsed by and capable of being correlated with scattered facts supplied by previous writers,—thus proving that in medical as in general science no truth, though apparently immaterial and isolated, is without its value. The post-mortem lightness of the lungs in the tropics, recorded by Parkes, is a result of this climatic law. And, seeing that *heat drains internal organs*, research will probably show a similar anæmic state of the liver, pancreas, and other internal organs and parts. So, also, the morbid changes induced by cold so intense as to be pathological and fatal are a necessary sequel to a perversion of the climatic law of the circulation. Congestion of internal organs is then observed in a more decided form. Thus, Quelmalz found the vessels of the brain turgid and the large vessels and arteries filled by polypous concretions (coagula?). And he rightly refers the sopor preceding death to congestion of the cerebral vessels and effusion of serum into the ventricles. Rosen also observed the intercranial vessels engorged. Cappel found the blood and fluids accumulated chiefly in the thoracic and abdominal organs. Kellie, besides these appearances, notices a bloodless state of the scalp, engorgement of the intercephalic sinuses, and remarkable redness of the small intestines from sanguineous turgescence. These facts prove that *cold congests internal organs*.

The physiological law of climate, which has thus been proved in the Caucasian and Ethiopian races, that is, the inhabitants of the temperate and tropical zones, is doubtless *universal*, and extends to the Mongolian and other races, as well as to the natives of the Arctic and Antarctic circles. In short, it embraces the entire human race, whatever their nationality or clime. The law and its physiological manifestations are necessarily all the more trying when the natives of Arctic or Antarctic regions visit the tropics, or those of the tropical regions the frigid circles, owing to the greater thermometric range and resulting physiological phenomena. The physiological phenomena resulting from season and ordinary weather-changes are likewise universal, and affect the natives of every zone.

Modern research is thus continually developing the influential part played by those wide-spread and now easily-controlled agencies once termed the "imponderables" (heat, light, actinism, electricity,

magnetism, gravitation, cohesion, and chemical affinity) in many of the great operations of nature, both in the animate and the inanimate world, and nowhere more than in the human body. Of these, *heat* and its absence *cold*, especially the former, are the most powerful. Indeed, there are few more important subjects for medical study than the influence of temperature on the human frame. Heat is a never-absent element in every process of health and disease, and in the operation of every hygienic and therapeutic remedy.*

Again, in these phenomena of altered functions and the greater one of the circulation, of which these are merely the expression, that mainly implicate what Sir Thomas Watson has so happily termed the "hydraulic machinery" of the body, we have not only a forcible example of the universal reign of law, a proof that mechanico-vital laws are as dominant in the animate as are purely physical ones in the inanimate world, but also a notable instance of a physical force originating, controlling, and modifying different kinds of vital processes.

The effects of heat on the human frame find a curious and instructive parallel and analogue in some of the greatest and most beneficent operations of nature in the inorganic world, thereby proving that heat is as important a physiological and pathological as it is a physical force. Thus, the heat which emanates from the sun, one of the greatest of all motive powers, influences the surface of the earth we inhabit very much as the self-generated caloric acts on the human microcosm which makes it. Acting on the sea and the air near the equator, their heated and thereby lightened particles rise and overflow to form those great and beneficent winds, ocean-currents, and rain-deposits, so important in the sanitary as well as in the social economy of the globe. So, in similar circumstances, or in artificially-formed tropical atmospheres, the blood flows from internal parts towards the finely-divided surface capillaries, to produce equally great and vital changes in the human economy. In all three the *agent*, a physical one, is the same, namely, *heat*. In all three it acts in the same way, namely, as a *vis a fronte* or attracting force. And while solids, liquids, and gases are alike acted on, the *manner* in which this is usually effected corresponds, the latter three or vivifying air, ocean, and watery vapor in the one case, and the life-sustaining blood in the other, being directly influenced, the solids being only indirectly and in a minor degree affected by and through these. The *parts* primarily acted on are the same, namely, that nearest the heating agent, the thin upper layer of water, the lowest stratum of air, and the cutaneous surface or shallow waters of the human circulation. The *primary effects* are the same, namely, a change in the direction of original currents. The *final results* are the same, namely, purification of the air, ocean, and body, and modification of their temperature. And the *ultimate objects* in all are identical, namely, hygienic and therapeutic, the promotion of the health and comfort of the different forms of life they severally sustain, that of the body nourished by the blood, and of the animals and plants which occupy the air and ocean. Without these phenomena of ocean-currents, winds, and blood-circulation, the heat of tropic lands and seas and the cold of other regions would soon become intolerable, and those of the skin and body either too high or too low for the maintenance of their vitality, while all three, the air, ocean, and blood, would rapidly become impure and unfit to sustain life.

The law thus induced by thermometric changes in the air proves that heat, long included in the category of therapeutic agents, is among the most potent of them all, inasmuch as it acts not slowly and on one organ or function, but promptly, certainly, and largely on every part, and stimulates not only their ordinary but also their vicarious or compensatory action. The effect of heat on the frame also finds its parallel in the action of certain medicines which apparently act on the circulation either directly or indirectly through the nervous system, thereby sending the blood to certain organs or parts in larger quantities than at other times. Thus, sudorifics, like heat, cause a diversion to the skin, diuretics to the kidneys, sialagogues to the salivary glands, galactagogues to the mamma, emmenagogues to the uterus, and so forth.

The recognition of these facts and of the law on which they depend, moreover, gives a firm and philosophical basis for the

* See two valuable papers on "Cold and Heat," by T. Wilkinson King, Esq., London Medical Gazette, June 23 and July 21, 1843.

further elucidation of the effects of these important physiological factors, climate, season, and weather, regarding which many points still need inquiry, of not more interest in a purely physiological point of view than in what may be termed ethnological or racial physiology, and in the solution of the long-vexed and still unsettled question of the unity or plurality of species, and the original development of man from one or several genetic centres.

Those physiological facts are necessarily of most value which are of practical application in the prevention, relief, or cure of disease. Hence the present subject is of etiological and semeiological importance. And in warm seasons or in tropical climates how can we properly estimate whether or not observed phenomena are pathological till we fully understand the physiological or healthy effects of high natural temperatures? Evidently, therefore, the study of the latter is the first step towards an accurate acquaintance with and philosophical method of treating or preventing many morbid processes.

The preceding facts are of *hygienic* and *therapeutic* value, and form a fitting preliminary to an inquiry as to the preventive, curative, or palliative effects of the same potent physiological agency in disease generally, especially in *lung and chest ailments*. And they not only give a clue to the rationale of the action both of those agencies heat and cold, and of many other frequently-employed remedies, but also furnish an indication for the application of these as prophylactic and curative media.

Lastly, as has been already shown, these facts materially aid in the diagnosis of lung ailments by furnishing a more accurate system of spirometry.*

To conclude, the following may be given as a summary of the more important of the preceding facts and inferences resulting from change of climate, season, or ordinary weather-fluctuations, when the thermometric rise is from 42° to 83° Fahr., or the reverse.

1. An increased spirometric capacity of the lungs to an average of 12¼ per cent., or 31 cubic inches, equivalent to a reduced vascularity by 17.88 fluidounces.

2. A diminished respiratory function, as shown by a slower respiration to the extent of 8.9 per cent., which combined phenomena diminish the amount of air consumed daily by 36.85 cubic feet, or 18.43 per cent., of carbon excreted daily by the same percentage, or 1.843 ounces, and of watery vapor excreted by the same percentage, or 4 fluidounces, nearly.

3. A diminished pulse by two and a half beats per minute, and perhaps a reduction in its force also.

4. An increased body-temperature by from 1° to 2° Fahr.

5. A diminished urinary secretion by 17½ per cent.

6. An increased perspiratory secretion to the extent of 22.38 per cent., and perhaps a correspondingly-increased elimination of carbonic acid by the skin.

7. A diminished hepatic secretion to the extent of 0.15 per cent.

8. A diminished weight of the body in the majority, and a like impairment of the physique, often to the extent of 64 per cent. and average of five pounds.

9. Retarded growth in the majority of youths.

10. A correspondingly-increased supply of blood or vascularity of certain of the involved organs, and a similarly-diminished turgescence of others, according as their function is increased or diminished.

11. Phenomena of an exactly reverse kind, and to a like extent, on making an opposite change of temperature,—namely, from heat to cold.

12. A corresponding fluctuation, both in vascularity and function of corresponding organs, after each successive change of temperature.

13. The occurrence of similar phenomena as a result of change of *season*, and also of the ordinary *weather*-fluctuations prevalent everywhere.

14. The occurrence of like results, and from a like cause, from change of *altitude*.

15. The dependence of one and all of these phenomena on a definite cause, which may be termed the *climatic law* of the circulation, by which internal organs are congested at the expense of external ones under the influence of cold, and external ones congested at the expense of internal ones under heat.

16. The greater extent of these phenomena in adults and persons of large frame, and that for an obvious reason, the greater bulk of the blood.

17. The existence of a certain range in this redistribution of the blood and the

* See the Pacific Medical and Surgical Journal for August, 1879, and May, 1880.

resulting functional and morphological changes, which varies according to size, age, sex, and individual peculiarities, and beyond which they become pathological.

18. This physiological rise and fall, especially when great, as during zonal migrations, tend to increase both the ordinary and the vicarious action of the different involved organs.

19. The climatic law and its results affect the white and the black race, and therefore, presumably, every other race and variety of mankind, though each, doubtless, has its physiological differences.

20. They likewise manifest themselves in all latitudes and climates, in every change of season, and even during local variations in the weather.

21. In all cases, whether from climate, season, or weather-changes, the primary and essential cause of these physiological phenomena is *change of temperature.*

22. As the aërial temperature is everywhere and at all times varying, so these physiological phenomena are not only of universal occurrence, but also in more or less constant progress in every individual over the entire face of the globe.

23. Temperature being their exciting cause, they necessarily vary with this in extent, and therefore may alter as greatly and much more speedily within the twenty-four hours of the day than they do during a more slowly accomplished change of season or zone.

24. Their ultimate object in health is hygienic.

25. Seeing that they are as evident in morbid as in healthy states of the frame, they may thus act, according to circumstances, as therapeutic agents, or the reverse.

MYELOID SARCOMA OF THE TIBIA.

BY HENRY M. WETHERILL, M.D.

KATE S., æt. 20, single. Admitted to the surgical ward of the Pennsylvania Hospital, under the care of Dr. R. J. Levis, January 27, 1880.

She gave the following history. Her father died of phthisis; her mother about two years previously had been successfully operated upon for an external tumor, and her brother had at the time a large one upon the back. A few months after a fall and contusion of the right knee, the patient noticed a small, firm tumor just below the right patella, which has gradually increased in size, and for the past six months has been the seat of severe lancinating pains. Menstruation, which before was quite regular, during the past year has been almost absent. Upon admission, the patient was pale, weak, and anæmic, and received tonic treatment. The tumor involved the knee, but seemed to spring principally from the head of the tibia, the growth being principally forward. The circumference of the tumor over the head of the tibia was twenty and a quarter inches, and in length it was ten and a half inches. The knee was flexed at a right angle, and anchylosed. The tumor was pale, smooth, somewhat elastic, and rather painful when handled, with enlarged, tortuous, superficial veins, cystic in character. The inguinal lymphatic glands of the right side were slightly enlarged and indurated.

Upon the 4th of February Dr. Levis amputated the limb at the middle of the thigh, making antero-posterior flaps. At the point of division of the femur the bone was much less consistent than normal, the saw almost dropping through of its own weight. Carbolized dressings and a drainage-tube were used. When the stitches were removed, February 11, it was found that the entire line of flaps had united by first intention, except at the angles, which were kept patulous by the drainage-tube, and by February 26 the stump had completely healed, and the patient was sitting up. Upon the 8th of March she complained of severe throbbing pain in end of stump, the line of cicatrization being tender, hot, red, and throbbing. She was ordered to bed, and sedatives applied to the stump; quinine and morphia given *pro re nata.* Upon the 16th a small opening made its appearance in the cicatrix opposite the end of the femur, and a probe passed through the opening discovered a tract two and a half inches in depth leading towards the femur; but no dead bone could be detected. The same treatment being continued to April 1, the three catgut ligatures, with the knots apparently as closely drawn as when applied, were at that time found upon the surface of the poultice. They were quite hard and tough, and looked like the stems of raisins. From this time the stump rapidly healed.

Remarks.—It would be unfair to the application of catgut in surgery to withhold the fact that the ligatures employed in this case had been unskilfully prepared, the solution of chromic acid in which they had been macerated being too strong,—a condition which never fails to render catgut very tough and almost imperishable, those discharged from this stump not being even softened after lying for months in contact with the warm, moist discharges.

EXAMINATION OF THE TUMOR.

The specimen shows a section through the centre of the tibia with its tumor, the knee-joint, and the femur. The tumor commences

on the tibia, five and a half inches below its articulating head. A transverse section of the growth measures five inches in diameter; a half-circumference, eight inches. The extreme length of the growth upon the fibular side is six inches. The anterior and posterior portions of the head of the tibia have been raised up by the growth, and extend like a cap around the articulating surface of the femur; but the articular cartilage appears smooth and normal, and in the recent condition the joint appeared without fluid. The entire surface of the tumor is covered with thickened periosteum and a thin shell of bone, the remains of the compact substance of the tibia.

At the lower portion of the tumor, where it meets with normal bone, the compact substance is much thickened by periosteal growth, and is spread out around the lower segment of the tumor like the cup-shaped receiver of a ball. Over the surface of the tumor were attached and displayed the tendons and muscles, the latter undergoing fatty degeneration. The surface of the section of the tumor shows a great variety of colors and consistence of its tissue, varying from a dense white to a dark blood-red, from solid meat-like masses to cysts of varying size filled with dark-red fluid. Microscopic sections taken from various portions of the tumor show it to be a myeloid sarcoma in which the myeloid cells are of small size.

Many portions of the tumor had almost completely undergone degeneration, leaving behind bands of fibres with no cellular elements; at other portions the degeneration was less complete, the spindle-cell element having disappeared, leaving, however, myeloid masses which were undergoing granular and fatty degeneration. A microscopic examination of the medullary substance of the tibia below the tumor showed it to be involved in the growth, the myeloid cells being abundant and large in size. The medullary substance of the femur is pale and fatty-looking, but there was no evidence of its involvement.

This case has been under observation for the past year, and has never suffered in any way since, enjoying better health than ever before. The stump is exceptionally free from pain, and is in excellent condition for the adjustment of an artificial limb.

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TRANSLATIONS.

Action of Cantharidin.—At a recent meeting of the Société Médicale des Hôpitaux (*La France Méd.*, 1881, p. 223) Dr. Cornil read a paper on this subject, in which he said that when a rabbit is given cantharidin, either by the digestive tube or by absorption through the skin as by means of a blister, symptoms of poisoning are observed in the form of cystitis, nephritis, and inflammatory lesions of the liver and lung. Twenty minutes after the ingestion of the cantharidin the following lesions are found in the cavity of a glomerulus of the kidney: a large number of white blood-globules between the envelope of Müller's capsule and the vascular tuft composing the glomerule of Malpighi, together with a granular exudation filling and obliterating the calibre of the tubuli uriniferi. At the end of an hour these lesions are characterized by the proliferation of cellules, which, though they may at first have been round, are later irregularly multangular by mutual pressure. There is therefore true catarrh of the uriniferous tubules. In the bladder similar changes take place, but the lesions are superficial: it can be seen that the irritant principle contained in the urine acts directly upon the surface of the mucous membrane. A blister allowed to remain a long time in contact with the skin may produce the same effects, and Cornil is inclined to believe that the large blisters which are sometimes placed upon the chest, and are permitted to remain from twelve to twenty hours, do more harm than good. A blister should not remain on the skin more than three or four hours.

Treatment of Ménière's Disease.—Dr. M. E. Ménière (*La France Méd.*, 1881, p. 239) has recently published a brochure on the affection described in 1861 by his father and which has since been called by his name. The disease, as is known, is characterized by three principal symptoms: 1, noises or whistling in the ear, which precede the attacks; 2, vertigo accompanied by nausea and vomiting; 3, final deafness, which is usually incurable. Without going into a full description of the disease, Dr. Ménière the younger chiefly writes of the treatment, following the plan proposed by Prof. Charcot. The patient takes the following pill at meal-times: ℞ Quiniæ sulphat., Ext. cinchonæ, āā gr. jss. Beginning with this pill to the amount of about five grains of sulphate of quinine daily, the daily amount is increased to twelve or fifteen grains. Then no medicine is taken for from one to three weeks, and then the quinine is commenced again in the dose of six grains a day and continued for a month. The effect of the quinine is to diminish the vertigo and

finally to cause it to disappear entirely, modifying also to some degree the deafness. M. Ménière does not pretend to be able to formulate a cure for a disease in which all the resources of therapeutics have thus far proved vain, but quinine has at least the advantage of reducing some of the more severe symptoms.

ORANGE-COLORED SUPPURATION.—Verneuil (*Cbl. f. Chir.*, No. 5, 1881; from *Archives Générales*) says that orange-colored pus was first observed by Lebert in pyæmic patients, and later was stated by Delon to be pathognomonic of the pyæmic condition. Verneuil formerly agreed with these authors, his experience during 1870–71 having gone to show that severe wounds and fractures from bullets, particularly in intemperate persons, were likely to give rise to suppuration of this character, leading to a fatal conclusion. Recent observation has, however, led him to different conclusions. Orange-colored pus, which owes its color to an admixture of blood-coloring matter, is also observed in slight injuries which do not result fatally, but never before the third or fourth day, and not later, in a carefully-cleaned wound. The phenomenon is only very rarely observed, and usually when it does occur is ominous rather as showing a bad constitution on the part of the patient (alcoholism, phosphatic urine, etc.) than as indicating any direct tendency to pyæmia. A number of observations are given in support of this view. Riedel, of Göttingen, who translates Verneuil's article, says that his reasoning shows that he has not observed many cases of wounds dressed with careful antiseptic precautions, or he would scarcely have met with orange-colored pus on the third or fourth day (of a complicated fracture of the leg in a diabetic patient), under cotton batting, where there was at first no fever.

LARYNGEAL AND TRACHEAL STENOSIS AFTER TYPHOID FEVER.—Kiesselbach (*Cbl. f. Chir.*, No. 5, 1881; from *Deutsche Zeitschr. f. Chir.*) reports a case where gradually-increasing dyspnœa, coming on half a year after an attack of typhoid fever in a girl of 17, made tracheotomy necessary. In addition to marked inflammatory changes in the trachea, two elongated mucous tumors subsequently made their appearance in the posterior tracheal wall. Kiesselbach supposed that these were brought out by long-continued pressure of the canula against the edges of the tracheal wound, because they were seated on a spot directly opposite the tracheal wound and outside of the point of pressure of the posterior wall of the canula. The passage of tin bougies while removing the stenosis did not affect the tumors: so Kiesselbach had a canula made which contained a fenestra on the convex side, which was closed by a plate hinged below. The plate could be placed in position by a screw, and pressed against the posterior wall of the trachea. By the pressure of this plate the tumors were gradually caused to disappear.

INCREASED SECRETION OF SWEAT OF ONE SIDE OF THE FACE (*Giorn. di Med. Mil.*, November, 1880; from *Botkin's Archiv*, Bd. v., and *Peter's Med. Wochenschr.*, No. 39).—The patient, sixteen years ago, had suffered from parotitis as a complication of typhoid fever. The abscess was incised. Shortly after he noticed diminished sensibility of the skin anterior to the right ear, and redness of the right cheek when eating, which would, at the same time, be suffused with sweat. Careful examination revealed a cicatrix of no great depth behind the right ear; sensibility of skin anterior to the right ear slightly less than normal. The tongue, when protruded, deviated a little to the right; the right angle of the mouth was slightly depressed. On placing a little acid in the mouth, the right cheek at once blushed, was covered by profuse sweat, and increased in temperature. These phenomena occurred also on simply masticating, nothing being in the mouth. The bare idea of an acid provoked the same conditions.

Atropiæ sulph. (dose not mentioned) diminished the secretion of sweat, but had no effect on the rise of temperature and the blush.

From the above, the author concludes that the secretion of sweat is independent of vaso-motor influence, and directly dependent on special sudorific centres and particular nerves which supply the sweat-glands. J. F. W.

CURE OF OZÆNA BY IODOFORM (*Giornale di Med. Militare*, October, 1880; from *Allg. Med. Central-Zeitung*, June 5, 1880, and *Allg. Wiener Med. Zeitung*, No. 30, 1880).—Dr. Letzel prescribes iodoform, mixed with gum Arabic, so as to form a smelling-powder, in the proportion of two grains of the former to ten of the latter;

from three to six of the powders to be used daily. In six cases of ozæna so treated, the result was extremely satisfactory. In two of these, which had been under various treatments for two months, this effected a cure in from ten to fifteen days. In the other four cases, which were less serious, a cure resulted in six to eight days. Before administering the powder, the nasal douche is to be used. J. F. W.

A CHARACTERISTIC SYMPTOM OF HEREDITARY SYPHILIS.—Prof. Parrot (*Le Progrès Méd.*, 1881, p. 125), in a recently-delivered lecture on infantile syphilis, speaks of a particular condition of the lingual mucous membrane, first observed by Gubler and Bergeron, and described by Bridoux in his thesis (1872), and which the lecturer considers to be connected with and characteristic of hereditary syphilis.

The tongue displays desquamation, beginning at the point and the borders, and passing over the surface, the process reaching the central raphé (V *lingual*) by the time reparation is beginning at the border. The circinate form of the desquamation, and its clinical character of proceeding by rapid and successive assaults, recommencing, for example, at the point of the tongue in the newly-formed epithelium, before it has fairly begun to disappear at the base, serve to make this peculiar affection of the tongue in hereditary syphilis an entity not likely to be mistaken for any other affection of this organ.

Histological examination shows, in perpendicular section of the lingual mucous membrane, that there is a tumefaction of the cellular elements of the papillary layer, with superficial shedding of epithelium and proliferation of embryonal elements, as in the cutaneous syphilides. Another proof of the syphilitic character of this affection is found in the fact that its maximum of frequency is at the same age as that of the other syphilitic manifestations. Prof. Parrot does not regard this lesion as contagious, nor does he consider it amenable to treatment.

EXTIRPATION OF THE PNEUMOGASTRIC NERVE WITH A TUMOR OF THE NECK—RECOVERY (*Giornale di Med. Militare*, November, 1880; from *Bulletino d. Scien. Med.*, October, 1880).—Dr. Lücke reports the following case. In 1878 he extirpated a colloid cancer, situated in the right submaxillary region, from a woman 29 years old. Two years later the patient returned. The disease had appeared in the cicatrix of the former operation, and a larger tumor of the same character was discovered beneath the right sterno-cleido-mastoid muscle, to which it closely adhered. No cachexia.

The tumor situated in the old scar was readily removed; the other, laid open by a longitudinal incision, was found to adhere closely to the internal jugular vein, and to be intimately associated with the pneumogastric nerve of this side. Twelve centimetres in length of the latter were removed with the cancer. Immediately following lesion of this nerve *no* change in pulse or in respiration was observed. The patient did well, and five months afterwards the pulse and respiration were found to be normal. J. F. W.

HEMORRHAGE IN ESMARCH'S PROCESS (*Giornale di Med. Militare*, November, 1880, p. 1192; from *Gazette des Hôpitaux*, No. 107).—M. Nicaise has made some observations on the temporary ischæmia and subsequent hemorrhage after the use of Esmarch's bandage in amputations. To obviate this difficulty, the writer proposes, after the operation is completed, and before removal of the bandage, that sponges be applied to the surface of the wound and the flaps drawn over these in such a manner as to produce a compression over the whole of the wounded area. Then the bandage may be taken off. When the skin has resumed its natural color, the flaps should be raised, the sponges taken out, and any bleeding vessel ligated.

TREATMENT OF KELOID BY SCARIFICATION.—Dr. Vidal presented before the Société de Chirurgie (*Bull. Gén. de Thérap.*, vol. i., 1881, p. 136) a man of 48, suffering with keloid and under treatment by scarification. Emplastrum de Vigo, douches, etc., had been of no avail, and the tumor gave rise to considerable pain, for which multiple scarifications in parallel and transverse lines were practised. To M. Vidal's surprise, the tumor became very much reduced in size, and the success gained in this case encouraged him to try the same procedure in other instances, which also resulted favorably.

INTERESTING CASE OF SMALLPOX IN A FŒTUS (*Giornale di Medicina Militare*; from *Bulletino delle Scienze Mediche*, September, 1880).—At a meeting of the Academy of Medicine, in Paris, Labbé

presented for Vidal a fœtus which had been born alive covered with smallpox pustules. The mother had been vaccinated when a child, and never had the disease. The pustules at time of birth seemed to have reached their seventh or eighth day; larger than the pustules of ordinary smallpox; well umbilicated. The child died in a few hours.

At about the time of conception of this offspring the father was suffering from semi-confluent smallpox.

PURULENT INFECTION IN TYPHOID FEVER—OBSERVATIONS OF DR. GANDY (*Giornale di Med. Militare*, November, 1880; from *Journal de Mèd. et Chirurg. Prat.*, November, 1880).—Metastatic abscesses generally occur in the lungs, less often in the spleen, and then in the liver. Purulent infection generally follows an external eruption, but it is not necessary. This does not usually manifest itself before the third week, during the reparation of the ulcerated intestinal follicles, and it may be delayed until the second month. An eruption of ecthymous pustules should therefore be carefully noted.

Metastatic abscesses of the lungs can be recognized by auscultation and by dyspnœa; of the liver, by the jaundice. Chills, a rapid rise of temperature, often profuse sweats, the state of the tongue, diarrhœa, eruptions, such as of boils, or miliary, ecchymoses, all confirm the diagnosis.

Believing that infection is due to the absorption of purulent matter from intestinal ulceration, the writer recommends phenicated laxatives. Dr. Bouchard advises a mixture of glycerin and carbon, or the following: creasote, gtt. ii; rum, 120 grammes; phenic acid, 25 centigrammes; salicylic acid, 1 gramme. J. F. W.

THE DERIVATIVE VASCULAR ACTION OF LARGE DOSES OF IPECAC IN PNEUMONIA.—Dr. Verardini (*Jour. des Sci. Mèd. de Louvain*, 1881, p. 100; from *Bull. delle Sci. Med. de Bologna*), basing his investigations on those of Pechollier, Peter, and others, gives ipecac to his pneumonia patients in thirty- to eighty-grain doses. He has not found it useful in hæmoptysis, but it appears to be valuable in diminishing pulmonary hyperæmia and congestion, and to be susceptible of producing a sufficient degree of ischæmia to ameliorate considerably the condition of patients suffering with pneumonia. He formulates his conclusions as follows. 1. Ipecac is harmful in hæmoptysis. 2. It is useful and well tolerated in pneumonia. 3. The ischæmia induced in the lungs under the influence of ipecac appears to be the result of its reducing vascular tension. 4. The beneficial effect of the drug is not dependent upon the nausea and vomiting which it produces, but to this reducing action. 5. This action of ipecac has been shown by experiments made by the author.

TO FACILITATE THE REMOVAL OF PLASTER-OF-PARIS BANDAGES.—Dr. Mooy, of Holland (*Jour. des Sci. Mèd. de Louvain*, 1881, p. 93) recommends that before the application of the plaster bandages a band of flannel should be laid up and down the limb at the point where the plaster bandage is to be divided. This is to be doubled, and saturated with unboiled linseed oil to which has been added five per cent. of carbolic acid. At the end of a few hours the bandage is found to be impregnated with oil, as is testified by the yellow color which it assumes along the course of the flannel band. Dr. Mooy adds that the flannel band is not absolutely requisite, since the same object may be gained by oiling the plaster bandage from the outside, either after it has dried or while it is being put on.

DELIRIUM TREMENS CURED BY CANNABIS INDICA AFTER THE FAILURE OF OPIUM AND CHLORAL.—Dr. F. Villard (*Le Progrès Mèdical*, No. 8, 1881) gives a case in which eighty grains of chloral were given within ten hours without producing rest, and then extract of opium to the amount of two to three grains, also without result. Extract of haschisch to the amount of two grains every hour until eight grains had been taken gave relief. This dose, which is about four times that recommended in the books, was given because, as Dr. Villard says, a smaller dose—or, at least, too small a dose—would have produced a stimulant instead of a narcotic effect. He lauds the effect of the cannabis very highly.

SACCHAROCARBONATE OF IRON.—M. Ch. Tauret (*Bull. Gèn. de Thérap.*, vol. i., 1881, p. 127) has discovered a crystallizable compound of carbonate of iron and sugar, to which he gives the above name. It is found in the interior of Vallet's mass after two years, and contains eighteen per cent. of carbonate of iron. It is easily soluble in feebly acid solutions.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, APRIL 9, 1881.

EDITORIAL.

THE COUNTY MEDICAL EXAMINERS.

AT the meeting of the Pennsylvania State Medical Society held in Pittsburg, May, 1878, Dr. A. M. Pollock, of that city, offered a resolution which required all county medical societies, represented in the body, annually "to elect three members, to be called medical examiners, whose duty it shall be to examine all applicants for admission as students of medicine under the tuition of members of this Society; and said committee shall withhold their certificate from any applicant unless he is of good moral character, possess a good English education, and a sufficient knowledge of Greek and Latin to enable him to pursue his studies with advantage. And no member of any county society shall receive any person as a student of medicine unless he presents a favorable certificate from this committee." After a good deal of discussion, this resolution was adopted and entered upon the minutes.

At the meeting of the Society held at Altoona, last May, it was officially made known that a large number of county medical societies had failed to comply with the resolution, and a second resolution was carried by a large majority, that no delegate should be received at the meeting of 1881 from any county medical society which had not "complied with the law requiring the appointment of medical examiners." The Philadelphia County Society has, we believe, refused to so comply; and the interesting question arises, Will its delegates be excluded? To our thinking, it is perfectly plain that they will not be, and cannot be.

The constitution of the Pennsylvania State Society avers (Article III., Section 1), "The Society shall consist of delegates and permanent members." (Section 2.) "The delegates shall receive their appointments from the county societies." (Section 3.) "Every delegate from a society not in delinquence, before admission to a seat in the Society, shall produce a certificate of delegation signed by the president or secretary of his county society, and shall sign the rules and regulations." What the words "rules and regulations" mean is nowhere explained, either in the constitution or the by-laws, and it is probable, therefore, that no legal meaning attaches to the phrase. It is plain, however, that they must refer to something personal to the delegate, and not to anything affecting directly the county societies, since the constitution gives the society the right to representation, provided the annual dues have been paid, and any rule or regulation depriving the county society of such right would be unconstitutional, and therefore null and void.

Further argumentation does not seem necessary. It is plain that the resolution of 1881 previously quoted is unconstitutional, that its passage was a legislative blunder unworthy of those who adopted it, and that if the Society desires to enforce the provisions of the first resolution (that of 1878) it must do so by altering the constitution in the manner prescribed in Article VIII. of that instrument. A second and very important consideration which now arises is, Is it better for the State Society to attempt coercion in the future?—*i.e.*, to alter the constitution according to constitutional methods, and then exclude defiant county medical societies.

It is plain that if it were possible to keep the uneducated from entering the profession the gain, both to the profession and to the country, would be great. It is also plain that the enforcement of such a

resolution as that proposed would be very influential in leading young men to educate themselves primarily before attempting to study medicine. The end is most desirable; the method of obtaining it is efficient, provided the State Society has the power to enforce its own will.

That our State Society yearly adds new rivets to the bonds with which it unites practitioners of medicine into a corporate body is unquestionable; and it does seem to us as though this great body might now begin to exert its powers. The present outlook indicates that if it does there will be a trial of strength between it and the Philadelphia County Medical Society, led by a few men whose vested interests are not exactly those of the profession. Do our rural brethren doubt as to who, under these circumstances, would, in the long run, win? A change of leadership might result in our city councils; or the counsels might change, the *personnel* of the councils remaining the same. Something would give way, provided the State Society acted firmly, wisely, and not overbearingly,—acted, in other words, in such a way as would conform with the self-respect and sense of justice of a large majority of its members.

The resolution of Dr. Pollock should, however, before being put into the constitution, be modified in obedience with the maxim that all statesmen recognize,—namely, to proceed by short steps. Neither the general community nor the general profession are prepared to require a knowledge of Latin and Greek of the candidate for medical honors. A man may be highly educated in science and know neither Latin nor Greek: indeed, it is doubtful whether the study of Greek ought even to be encouraged, when modern languages and physical sciences offer so much opportunity for useful work as they do at present. The standard-bearer who rushes away ahead of his regiment dies and accomplishes nothing: such is the natural fate of courage without brain. The useful flag-carrier is he who so slowly bears it onward that the regiment does not know when to forsake its standard, and with it swarms over the enemy's entrenchments or lines. We hope that at the approaching meeting of our State Society some one will offer an amendment to the constitution requiring the appointment by the county societies of examiners, who shall see that every would-be student of medicine has received a good English education and has some elementary knowledge of the physical sciences. If this is finally adopted, we can hope for good to be achieved.

UNDER the name of the *Medico-Chirurgical College of Philadelphia* a new medical school has been born. To our thinking, it is an ambitious, even if puny, youngster. Even the babe in the cradle is beginning to spew at the mention of an eighteen months' course of medical study! The requirements, fees, and announcement seem to be modelled after those of the University. Where the pap to sustain the budding life is to come from is not plain to an outsider. A two years' college with low fees might, we believe, be made a pecuniary, although discreditable, success in this city; but what sufficient inducements are offered to students between the pink covers before us we are unable to discover. As there appear to be no trustees in this new venture, the faculty is untrammelled to do what it likes, and when the pressure of unpaid bills, rent in arrears, etc., is felt, we fear lest Bellevue shall have an imitator.

It is also stated that a new medical college has been started in Pittsburg. We have seen no announcement, but suppose the statements are correct. Poor Pennsylvania! *O tempora! O mores!*

PROFESSOR CHARCOT is said to have received recently twelve thousand roubles (about nine thousand dollars) for a consultation visit to Moscow.

LEADING ARTICLES.

THE CATGUT LIGATURE.

THE catgut ligature appears likely to play a not unimportant rôle in the surgery of the future. Its advantages over the old-fashioned silk ligature are, in some respects, so decided that its advocates, undeterred by occasional failure, continue to push its claims and to experiment continually with a view to remedying its defects and improving its good qualities. The subject has, indeed, been regarded as so important by Prof. Lister that he has taken it as his text on the occasion of his installation as President of the Clinical Society, and has devoted his inaugural address* to an examination into the qualities of this ligature and the methods of its improvement.

Contrary to what was originally apprehended with regard to the catgut ligature, it is found to disappear entirely, even when suppuration takes place in the wound. It does not, when well prepared (unless under exceptional circumstances), come away like a little slough, as was feared. Now and then, however, in the experience of some surgeons, the knots of the catgut ligature have given way, leading to severe hemorrhage; or suppuration around the ligature has taken place, with great delay in the patient's recovery. In the hope of preventing in some way these untoward results, various experimenters, and among them Mr. Lister, have sought for some method of making the catgut ligature not only effectually strong, but also unirritating.

Animal ligatures of another kind have recently been suggested by Mr. Barwell, —namely, strips of the mingled yellow elastic and unstriped muscular tissues which constitute the arterial wall, obtained by spirally cutting the aorta of one of the larger animals. The chief objection to these ligatures is the difficulty of obtaining them: for the average surgeon's use so unusual a material is not convenient. Catgut, on the other hand, may be obtained all the world over in abundance. As it comes from the maker, however, it is entirely unfit for the purposes of the surgeon. It becomes soft and pulpy soon after it has been placed in blood-serum. A piece of catgut placed in warm serum from the blood of a cow assumes this condition within half an hour. It is essential, in order to fit the catgut for the purposes of the surgeon, that it be altered in its physical constitution so as to be no longer liable to this softening effect by the serum of the blood. It is a remarkable fact that blood-serum softens catgut more readily than warm water does; so that we cannot test the endurance of catgut by steeping it in warm water. Mr. Lister believes that his method of preparing catgut answers the purpose very well, provided certain conditions are complied with in its preparation. However, the process is a tedious one, requiring at least two months to make the ligature at all trustworthy. This is a serious objection, for the surgeon who has not prepared the catgut himself and kept it for a long time is at the mercy of the person who supplies it, and the person who supplies it, not being aware of the enormous importance of the question of time, if he happens to have run out of that which has been long prepared, will sell what has been only a short time in the preparing-liquid and is, in consequence, altogether untrustworthy.

Mr. Lister brings forward a new method of preparing the catgut ligature which is the result of experiments made during his leisure time for the past two years, and the account given in his lecture is interesting as showing the amount of careful investigation requisite to understand even so simple a thing as the manufacture of catgut. He has followed up the process of its manufacture from beginning to end, and, having first shown what the material is with which we have to deal, he goes on to speak of the necessity that the catgut should be "seasoned." But by the ordinary process this involves, as has been said, a long period of preparation. It is desirable that the period of preparation should be short. Then it is essential that the catgut should have proper strength, so as to bear any reasonable strain that the human hands can put upon it in the thicker forms, —as when used, for instance, in such cases as the circumferential ligature of the thyroid vessels, in the removal of a goitre, or for securing the pedicle in ovariotomy. And it is not sufficient that it should be strong to start with: it is easy to get catgut strong in the dry state: it is necessary that it should be strong after steeping in blood-serum awhile. It would be a very sad

* Lancet, vol. i., 1881, p. 201.

thing for the ligature of an important vessel if the residence of the catgut among the tissues soaked with serum for a few minutes, or even for a quarter of an hour, should render the catgut so soft that it should give way or permit the knot to slip. It is necessary that a knot tied upon it should hold with absolute security.

That catgut as at present employed does not fulfil this condition seems probable from the report of cases under the care of Messrs. Treves and McCarthy read before the Royal Medical and Chirurgical Society at a recent meeting.*

In Mr. Treves's case, which was particularly interesting, the right carotid in a case of aneurism was ligatured above the omo-hyoid with antiseptic precautions, and the wound healed by first intention. A month later the third part of the subclavian was ligatured, but, through some accident, suppuration took place. The patient dying one hundred and eight days after the operation, the ligated vessels were examined. In the region of the carotid no trace of wound could be discovered even in the carotid sheath, and every trace of the ligature had disappeared. No constriction could be seen in the vessel; its external outline was unaltered, and the seat of ligature was indicated only by a faint, transverse, bluish mark on the vessel, due apparently to the thinness of the arterial coats in that direction. The vessel was found to be patent, but to be narrowed at the seat of ligature by a kind of perforated diaphragm leaving a central aperture about a line and a half in diameter. This diaphragm was formed by the incurving of the ruptured ends of the middle coat. The ligated portion of the subclavian artery was found imbedded in a very firm mass of inflammatory material, and was occluded for three-quarters of an inch and entirely obliterated for half an inch.

The appearances here presented certainly seem, to us, to point to early solution of the ligature thrown around the carotid before inflammatory adhesion and the organization of the clot could have time to occur. Indeed, it would almost appear that ligature by catgut as heretofore performed must have been hap-hazard, and it seems almost wonderful that no cases of secondary hemorrhage have been reported. On the other hand, the opposite fault of too great toughness and resistance to the solvent action of the tissues is the commoner, thus resulting in suppuration, with the final rejection of the unchanged ligature, as occurred incidentally in a case reported by Dr. Wetherill in the present number of this journal.

Mr. Lister claims that by his new method of preparation the catgut ligature may be rapidly made ready for use, and that it may be made of just the desired degree of toughness and resistancy. His method is as follows. One part of chromic acid is dissolved in four thousand parts of distilled water, and to the solution are added two hundred parts of pure carbolic acid or absolute phenol. Minute as is the quantity of chromic acid, it exerts, when in conjunction with carbolic acid, a very powerful effect upon the gut. The first effect of the addition of the carbolic acid to the chromic solution is to change its pale yellow to a golden tint. Later, a gray precipitate falls; but this does not occur when the catgut has been immersed in the solution. As soon as the liquid has been prepared, an equal weight of catgut is introduced into it. If the proportion of catgut is too large, it runs the risk of not being prepared; if too small, it may be over-prepared. At the end of forty-eight hours catgut steeped in such a solution is sufficiently prepared. It is then taken out of the solution and dried, and when dry is placed in one-to-five carbolic oil; it is then fit for use, and will not soften in serum.

Such is the new method of preparing the catgut ligature, which is considered of such importance by Mr. Lister that his address is chiefly concerned with this subject. He also gives useful information regarding the preparation of the catgut itself, which we have not space to describe. As to the strength of the gut thus prepared, a bit two and two-thirds hundredths of an inch in diameter, after soaking in serum for half an hour, stood a strain of eleven pounds four ounces. Ten pounds, Mr. Lister says, represents the utmost strain that his arms are able to put upon a cord. The ligature is thus seen to possess ample strength.

With regard to the behavior of the new catgut among the tissues, Mr. Lister's experience is against the view that catgut is dissolved by the serum. Bits of it exposed to the action of fresh or of putrid serum

* Lancet, vol. i., 1881, p. 251.

remain undissolved. Catgut introduced into wounds is not dissolved by the serum, for when used as drainage those parts beyond the vital influence of the tissues remain unchanged, while those within gradually disappear. Microscopic examination of improperly-prepared catgut which has been in the living tissues shows it to be diminished in size and infiltrated with young growing cells. Good catgut, however, is merely eroded superficially, and is found to be thus gradually dissolved away, retaining its firmness to the last. Mr. Lister compares the absorption of the catgut to that of dead bone in a granulating wound. Erosion, however, does not begin at once,—indeed, not for a fortnight, according to Mr. Lister; and then it proceeds slowly, especially in the larger sizes of catgut.

Dr. MacEwen,* quite independently of Mr. Lister, has also devised a somewhat similar chromicized catgut, which was described in a late issue (March 12) of this journal.

CORRESPONDENCE.

LONDON LETTER.

IN a recent letter I considered the subject of the presence of lithates in the urine of cardiac dropsy, and their significance. They were regarded as indicating the inability of the liver to perform its function of the oxidation of albuminoids. The subject of the assimilation of albuminoids will now be further considered in their relation more especially to tissue-nutrition. This is a matter the practical importance of which is daily making itself more and more felt as physiologists are clearing up the functions of the liver. We see malnutrition in various forms. From lack of lime the bones are ill nourished, as seen in rickets; from want of sufficiency of fat in the tissues we get tubercle; when children cannot digest starch general malnutrition results; and when the albuminoids are deficient in the blood we find tissue-nutrition defective, and this is often very apparent in the heart and the diaphragm,—two muscles ever in action, and therefore feeling changes in nutrition very keenly. Strange it is that, with so many observers sweeping the field of physic for a subject to study specially, no one will look at the diaphragm; yet it must be affected by all conditions which interfere with the proper nutrition of muscles. The chest is examined with various instruments of precision, is percussed, auscultated, measured, and inspected; the calibre of the air-tubes, the question of the contraction of various areas, of pulmonary collapse,—all and everything seem to be examined except the condition of the diaphragm, whether it be fatigued or ill nourished, or otherwise. Yet surely much of the dyspnœa we see is due to failure in muscular fibrillæ of the diaphragm, just as palpitation is due in certain cases to exhaustion of the muscular structure of the heart. Starvation, then, of these two important muscles is one of the outcomes, and a conspicuous one in some cases, of the failure of the digestive organs to assimilate properly the albuminoids of our food.

It was shown in a recent letter that in digestion the proteids are changed into peptones by a process of hydration, and that when the peptones have, by so being made soluble, passed into the blood, they are dehydrated again. What is the precise history of albuminoids in the body until they reappear as the early histolytic products—leucin, tyrosin, creatin, and creatinin, passing on to bile acids and urine solids (the forms in which nitrogenized waste finds its way out of the blood)—is what we do not know, though it is what we very much wish to know. We have excellent grounds for holding that the liver has much to do with the furnishing of these albuminoids to the blood as required for interstitial digestion,—*i.e.*, the feeding of the tissues from the blood, as differentiated from feeding the blood from the food. The blood is fed first, and then from it the tissues. The relation of liver-disturbance to imperfect tissue-nutrition is a matter not nearly as much understood as it ought to be. The malnutrition which arises when the liver becomes enlarged secondary to mitral disease, the presence of lithates in the water, and the pale stools often seen, are common clinical phenomena. Yet it is quite usual, under such circumstances, to cram the patient with food largely albuminous, under the belief that such food is strengthening. So it would be if it were digested; but, then, it is not. On a dietary of fish and milk-pudding the patient would be much better nourished, because some of this food is fully and properly digested, while on a heavy meat diet the liver is simply overwhelmed and can digest none of it thoroughly. Of course the patients or their friends remonstrate at first against the insufficiency of the dietary; but the results calm them. When this mal-assimilation impairs the tissue-nutrition, and the heart and diaphragm feel the starvation, then a distinct series of symptoms, objective and subjective, are set up. These are the evidences of a feeble heart, impaired impulse, indistinct sounds, a readily-compressible pulse, palpitation with dyspnœa on effort, cold extremities, and tendency to syncope. The patient feels breathless upon effort, sighs, has vertigo, is depressed, is unable to think clearly or to

* British Medical Journal, vol. i., 1881, p. 150.

command his thoughts; the memory is defective; there is an absence of energy, and work becomes distasteful; there is irritability of temper, for the brain is not only ill fed, but is poisoned by the products of mal-assimilation. We all know the sense of energy, of buoyancy of spirits, given by a dietary rich in animal food when the normal products of healthy assimilation are present in the blood in fair quantity,—that sense of energy the Anglo-Saxon race so dearly loves. But when the products are abnormal, then there are the negative loss of proper pabulum and the positive symptoms of toxæmia,—of abnormal matters in the blood. Between the two the brain is at once starved and poisoned; it cannot work properly; the mental processes are interfered with; all seems gloomy and hopeless; there is more or less developed panphobia; everything wears its worst aspect; the whole field of life, indeed, seems spread over with Indian ink. The patient feels miserable and apprehensive, dreads that he or she is the victim of some occult insidious mortal disease, and is haunted with dread and suspicion. The vaso-motor system is disturbed, and alterations in the calibre of the arterioles lead to a damming of the blood in the arteries; the heightened arterial tension offers an obstacle to the ventricular contraction, and there are attacks of imperfect angina pectoris. Personally, I have not encountered actual syncope in these cases, but the patients often feel very like fainting. The *tout ensemble* of the case is closely like that of the fatty heart.

But then the fatty heart has quite a different set of surroundings, and it is this environment which must guide us in our diagnosis. There are the evidences of degeneration elsewhere, the greasy unctuous skin, the gray hair, the tortuous temporal artery, telling of atheromatous change, general and extensive, and the arcus senilis,—indeed, the general aspect of age, of senility, ordinary or premature. Now, of course, there may be such concomitants and yet the feeble heart may not after all be fatty. A case which was under my care many years ago forces itself upon my consciousness. There were the evidences of cardiac feebleness, objective and subjective, in an old man near eighty years of age. I feared fatty degeneration, and kept him very quiet. But in a few weeks he began to improve; his pulse grew steadier and less compressible; the heart-sounds became more distinct, and in time the symptoms and signs were those of a fairly hypertrophied ventricle, with a distinct aortic obstructive murmur. The old gentleman lived several years after this, but what the end was I do not know, not being in the neighborhood at his last illness. Here there was decided "heart-starvation," closely simulating fatty degeneration of the heart-walls, in a person where such decay was quite likely to be the case; and cases of similar character have been met with not infrequently since. The associations of these cases of "heart-starvation" are either work during the hours ordinarily devoted to sleep, or disturbance of the liver. Now, in a very thoughtful article recently in *The Practitioner*, Dr. Lauder Brunton, F.R.S., the editor, has described "Indigestion as a Cause of Nervous Depression." Here he has shown how the nervous system becomes enfeebled from the non-removal of waste, the product of that combustion which accompanies and is the physical factor of all energy, while at other times the depression is due to the presence of products of digestion not usually found in the general circulation. Indeed, the whole article demonstrates in a very instructive manner the aid physiological research can give to practical medicine. Anatomical research, without, as well as with, the microscope, has been rather depressing than otherwise, tending to demonstrate lesions against which the healing art is powerless. But physiological research is of the most inspiriting character, aiding us much in our efforts to be of use to our fellow-creatures. The products of disordered digestion are then nerve-depressants, and consequently we see the nerve-centres are depressed, as well as ill fed, in common with the rest of the tissues. The failure of power in the heart brought about by fatty degeneration of its structure is closely simulated by this palsying effect of the products of mal-assimilation. A heart not in its pristine structural integrity will feel the effects of such depressant agents even still more. Many a case of heart-starvation is diagnosed as fatty degeneration, and if the dietary and treatment be not looked to the patient may actually sink from asthenia, sheer debility of the great centres. Some time ago I saw a case which bore all the evidences of a heart failing from fatty degeneration, yet its subsequent history makes me feel very doubtful as to the absolute accuracy of the diagnosis. Of course it is impossible to be sure about what is actually going on in the fibrillæ of the heart, whether there was pure "heart-starvation," or whether there was not some actual degeneration in certain fibrillæ, and that repair is taking place by the development of those embryonic muscular fibrillæ found within the sarcolemma which undoubtedly take the place of effete fibrillæ in the acute softening of the heart so common after sharp fevers. Whether or not, there is no manner of doubt about the improvement in the case, the recovery of power, the disappearance of the restlessness, with failure on effort, the dyspnœa and palpitation on exertion: indeed, there is general improvement of the patient. Now, here, the aspect at one time looked like that of fatty degeneration, and so it was regarded by other physicians who saw him previously to myself. Yet I am beginning to question the accuracy of our diagnosis, and venture to think

we may all have been mistaken after all. Unless the coronary arteries are so atheromatous that their lumen is reduced below that possibly compatible with the nutrition of the tissues of the heart, or their orifices are blocked with an atheromatous tubercle, I must confess that there does not seem any absolute impossibility of such repair taking place by the development of these embryonic fibres, as seen in the plates in my work on the "Diseases of the Heart," copied from the work of Rindfleisch, and which are most suggestive and incitive. The whole subject is most entrancing, especially now when we are beginning to be more familiar with the heart as a muscle, influenced, like other muscles, by the laws of nutrition and repair. Valvular diseases are now generally well recognized, but the varying conditions of the muscular walls of the heart are far, very far, from being well understood. We all are familiar with cases where slight signs of disease in the heart are quickly followed by fatal consequences. Are we anything like so familiar with the opposite class of cases, where the diagnosis and prognosis have been disproved by the work of time, and the condemned patient has lived to have his jibe at his doctors, perhaps even to follow them to the grave, while he lives on working and feeling well? These cases are not so rare as might be imagined. We know the danger of some matters about the heart. Shall we after a while begin to have some glimmerings of acquaintance with repair from conditions in which fatty necrosis has been closely simulated, nay, has even perhaps existed to some extent?

Now, the importance of the recognition of "heart-starvation" is not confined to clearing a number of cases of cardiac asthenia from the haunting suspicion of fatty degeneration in persons of middle age, and so saving much human misery which would otherwise exist. It has wider relationships. It enables us to recognize the precise nature of some otherwise troublesome cases of pronounced dilatation coming on quickly in persons previously quite well. For instance, about a year ago I was called in consultation to see a woman of thirty-six, a strong, healthy, vigorous woman, who had charge of a family of children all of whom had scarlet fever in turn. Night and day she assiduously tended her little charges, her affection for them causing her to stick to her duties until the last one was convalescent, when she was thoroughly "knocked-up" and had to go home to be nursed herself. Her mother, a hale woman of eighty, was bustling about, waiting upon her, showing that she came of a long-lived race, retaining their energies till very advanced age. The father I did not see. Here the heart had yielded under the tremendous strain put upon its walls, weakened and ill fed; for she gave herself no time for food, but just kept herself up by tea, and scarcely slept. She felt much better for the confinement to bed, and improved considerably under a course of digitalis and iron. I gave a very favorable prognosis. The last time I saw the medical attendant he told me she was dead. She had been taken into some hospital; but he did not know the particulars. It seems most likely that she sank under some intercurrent affection, as, with her family history, recovery was apparently only a question of time. "Heart-starvation," the consequence of loss of sleep and little or no food, may result in dilatation, which I think is more apt to be the case with women. At other times there is no perceptible increase in the area of cardiac dulness, and the symptoms are those of asthenia, only closely simulating the signs and symptoms of the fatty heart, and the real state cannot be distinguished by physical examination alone.

Now, what are the indications furnished for the management of these cases? In the first place, rest, as absolute as can be attained, must be secured. Any demand upon the heart would be very likely to originate acute dilatation. To reduce the demand upon the heart is clearly the first thing to be done. The next is to look to the assimilative processes. The bowels must be regulated; if there be lithates in the water, pale stools, and a bitter taste in the mouth, then an hepatic stimulant—sulphate of soda, ipecacuanha, iridin, or euonymin—must be added to the laxative employed; and the patient must be dieted. The question of diet is one of the extremest urgency in these cases. A small quantity of easily-digested albuminoids, fish, poultry, game, or milk-puddings, gives much better results than a heavy meat dietary, none of which is thoroughly digested. This is a matter upon which insistence is requisite. We must feed the patient so as to feed the blood, and from it the tissues. A little readily-digested food is thus properly assimilated, and then the nutrition of the albuminoid body-tissues follows. If the digestion is imperfect, it is easy to give a teaspoonful of the liquor pancreaticus advocated by Dr. William Roberts, in a solution of bicarbonate of soda, about two hours after a meal, at "the tail of the digestive act." This line of management will give good results. I do not know whether the dietary is as much attended to in the United States as it is here in England, or not. But with us we find in an appropriate dietary a great factor of the successful treatment of cases of malnutrition, no matter whether it is "heart-starvation" from imperfect assimilation of albuminoids, or "nerve-exhaustion" from the digestive powers being unequal to the building up of the complex fat "lecithin" containing nitrogen and phosphorus, or anæmia from their inability to construct hæmoglobin, a very complex body indeed, for the red corpuscles. The system may be equal to producing ordinary albumen

and fat, and yet be unable to build up these complex bodies. The subject of nutrition, especially "interstitial digestion," is one of which we are only beginning to conceive the practical importance, but a wide vista seems opening up. I have some emulsions of oil before me as I write, of considerable promise.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a conversational meeting of the Society, held at the Hall of the College of Physicians, Philadelphia, January 12, 1881, Dr. Albert H. Smith, President, in the chair, Dr. Frank Woodbury read a paper on "Some Clinical Phases of Poisoning by Alcohol" (see page 417).

DISCUSSION.

Dr. E. T. Bruen noticed the similarity between the brain-symptoms of chronic alcoholism and those of ordinary chronic meningitis, and inquired regarding the differential diagnosis. He had observed in many cases of alcoholism irregular rises in temperature, and after death thickening of the membranes, adhesion, and other evidences of inflammation.

Dr. R. S. Huidekoper related a case of idiosyncrasy in regard to the effects of alcohol. While on a boating-excursion, a young man took within fifteen minutes a couple of drinks of whisky amounting to less than two ounces in all. In a short time his face became much flushed, and suddenly grew very pale; he then fell into a state of complete alcoholic coma. It was nearly six hours before he regained consciousness. It was subsequently ascertained that this gentleman had suffered on previous occasions from similar small quantities of alcohol.

Dr. John B. Roberts said that the physician has better opportunities of recognizing the effects of alcohol, and of studying the relations of cause and effect in alcoholism, than in many other diseases. The question whether or not alcohol is a true food is a very important one. Dr. Parkes, in his report of the issue of a spirit ration in the Ashantee campaign, arrived at the conclusion that for forced marches of short duration, especially at night, the troops did better on a rum ration, but that their energies were depressed the next day and they were correspondingly incapacitated from sustained effort; but on an extra ration of beef-tea their efforts could be kept up to the maximum for several days, with less fatigue.

Delirium tremens is not always due to deprivation of alcohol, but in many cases it is due to cerebral anæmia from want of food. It is not, therefore, to be regarded as an indication to return to alcohol-drinking so much as it is to administer nutritious food. In many cases tonics can be substituted for spirits, and the cases recover as well or even more readily than with whisky.

Dr. Charles K. Mills said that he regarded the remarks of the lecturer upon the differential diagnosis of acute alcohol-poisoning as of considerable importance. His own experience had been that it is very difficult to make an exact diagnosis of alcoholic coma. The points mentioned in the paper were good, but they would be insufficient sometimes to decide the character of a case. Hemiplegia, for instance, is not always present in apoplexy. He had seen a case lately where a large hemorrhage had broken down part of the cerebral hemisphere and the septum between the ventricles, both sides of the body at the time of examination being about equally helpless. In another case where coma was present it was difficult to decide whether it was uræmic, alcoholic, or apoplectic. The man was brought into the hospital ward insensible. Respirations were very slow,—indeed, only about one-third of what they should have been in health. The skin was so cold that surface-temperatures could not be taken with ordinary instruments, and in the rectum the temperature was under 90°. Complete paralysis existed, not hemiplegia. There was no odor of alcohol on the breath; no appearance of injury to the head; no swelling of the feet and legs. Albumen was present in the urine. Upon making the autopsy, cerebral œdema was found; a large amount of fluid was present between the pia mater and entire convexity of the brain; it was also increased in the ventricles. The kidneys were degenerated. It was a case of uræmia.

While in exceptional cases a positive diagnosis could not be made, still the presence of an alcoholic odor of the breath, the chemical examination of the urine, the surface-temperature, and the paralytic symptoms would largely guide us to a correct conclusion.

In reference to the treatment of acute and chronic alcoholism he endorsed the remarks of the lecturer. He had found in coma and threatened collapse that the expedient of administering belladonna or atropia hypodermically might be a most important one, and it was one that was not as largely used as it should be. It is especially valuable where death is threatened by respiratory paralysis. He had used atropia in this manner, combined with electricity, as a peripheral stimulant. He mentioned the following case, although not one of alcoholism. A patient had been almost constantly vomiting for nearly three weeks, with extreme depression of respiration, the movements being reduced to four or five in the minute. Under the use of electricity to the limbs and atropia hypodermically, she rallied from this condition and lived four or five weeks, when she had another

attack, in which she died. It was subsequently found that she had a cerebellar tumor. In nearly all the cases that he had examined of chronic alcoholism he had noticed changes inflammatory in character, especially in the pia mater; a peculiar opacity was usually present; but the pathological condition was not identical with that of meningitis from ordinary causes. He had also seen pachymeningitis in drunkards.

Dr. W. H. Parish, as illustrating the difficulties of diagnosis, referred to a case which had occurred at the Philadelphia Hospital. A man, who had been several times previously under treatment for a similar condition, was admitted into the drunk ward, moderately intoxicated. After some hours' rest he apparently recovered, and was employed about the institution for several days. One night he was taken with what was supposed to be mania dependent upon alcoholism, and he was treated for several days for delirium tremens. His death occurred shortly afterwards, and at the post-mortem examination the blade of a pen-knife was found imbedded in the middle of the brain, having entered through the squamous portion of the temporal bone; the whole blade was there; it had led to extensive abscess, meningitis, and cerebritis. The symptoms throughout had been apparently those of delirium tremens.

Dr. Bruen said that he had seen cases in which he should have liked to have something upon which to base a decided opinion as to the existence of meningitis as a complication; for in some cases meningitis had been found after death, although he had not been able to distinguish the symptoms from those of ordinary delirium tremens during life.

Dr. Woodbury, in closing the discussion, said that the clinical phases of alcohol-poisoning offered an interesting and important topic for the practitioner, on account of the frequency of their occurrence and their usually urgent character. He had been surprised, upon reviewing the proceedings, that this subject had not within the last few years been brought up before the Society for discussion. On account of its comprehensive character he had only been able to sketch, and with rather a free hand, some of the rough outlines of the more prominent considerations springing out of the subject which he had submitted in the paper of the evening. In regard to the diagnosis of chronic meningitis he agreed with a previous speaker, that in simple cases occurring independently of alcoholism due attention to the symptoms would be sufficient to distinguish the case from ordinary delirium tremens. The previous history—of syphilis, sunstroke, blows upon the skull, or, rarely, rheumatism, with localized pain in the head of severe character, exacerbations of fever and delirium, with vomiting, but with onset less sudden than delirium tremens—may serve to distinguish such cases. When the conditions coexist, the use of the surface thermometer to the scalp would probably indicate the seat of the inflammatory process and aid in the diagnosis. If the patient complains of intense headache, and there is a decided febrile movement, frequent vomiting, and irregularly contracted pupils, the view of the coexistence of meningitis is tenable, and is at least highly probable. The fact that this complication is a frequent one has already been dwelt upon.

In concluding, he stated that although a man under the influence of a full dose of alcohol would generally succeed in sleeping off its effects, if kept warm, yet he felt that science—which shows alcohol to be a respiratory poison and capable of destroying life—protests against allowing a man in a condition of coma to sleep with an unknown amount of alcohol in his stomach waiting to be absorbed. When received into a hospital or station-house, such a patient should have his stomach emptied by an emetic or by the pump, and have a pint of hot coffee administered before allowing him to sleep; at the same time the skull should be carefully examined for injuries which may require prompt surgical attention.

PHILADELPHIA ACADEMY OF SURGERY.

STATED MEETING OF FEBRUARY 7, 1881.

DR. D. HAYES AGNEW, Vice-President, in the Chair.

ATROPHY OF MUSCLES AND BONES CONSECUTIVE TO CLUB-FOOT.

DR. T. G. MORTON presented two patients showing atrophy of the limbs from club-foot, in substantiation of his statement, made at a previous meeting, that the bones were diminished in acquired and congenital talipes, and that the affected leg never kept pace with the sound one.

D. C., aged 7 years, at the age of 20 months was suddenly seized with infantile palsy which involved the left lower extremity; he was in bed rather more than a week, and after this dragged the limb. In time it improved, and gradually he became able to use it freely. The limb has, however, never grown in the same proportion as the sound one. The child, as a result of this attack of palsy of the anterior leg muscles, has an acquired equinus, due to the unbalanced power of the calf muscles. Measurement shows differences in the circumference of the limbs and in the length of the bones. The left lower extremity is one inch shorter than the right, and one and a quarter inches less in girth below the knee. Around the point of the heel and the top of the foot the difference in measurement is a half-inch.

The second case was one of congenital club-foot with the following history. Six weeks

after birth he was operated on for equino-varus, and had subsequently a "sore foot," which prevented his wearing the apparatus prescribed. At six years of age a second operation was performed, which was also followed by a "sore foot." At the present time the bones of the left leg are smaller than those of the other; and careful measurement gives the following differences in the circumference of the limb at various points and in the length of the leg and foot:

The left is one inch less than the right at top of thigh; two and one-half inches less at middle of thigh; three and three-quarter inches less below knee; one and one-quarter inch less around heel; one and three-quarter inch less in length of foot; and one inch less in its entire length.

UPWARD DISLOCATION OF THE ACROMIAL END OF THE CLAVICLE.

Dr. S. W. Gross exhibited a gentleman suffering with this injury, caused by a fall, for whom he had had constructed an apparatus to prevent displacement of the joint-surfaces, which are retained in position with such difficulty after this dislocation. The elbow fitted into a sort of cup, from which a strap of webbing passed over the shoulder and by means of a pad made pressure upon the outer end of the clavicle. Other bands were required to prevent this primary one from slipping. The bone seemed to be in good position at the time of exhibition, which was five weeks after the accident. The apparatus was as efficient as strips of adhesive plaster, or the plaster-of-Paris bandage, and had advantages in regard to cleanliness and convenience.

Dr. Levis had thought of treating such cases, like fracture of the patella, by hooks or by wiring.

Dr. O. H. Allis stated that wiring had been done successfully by a surgeon in San Francisco.

SCROTAL TUMOR.

Dr. R. J. Levis brought to the notice of the Academy a patient having a large, painless, evidently non-malignant tumor of the right side of the scrotum. It had existed seven years, and was inconvenient only from its weight. On palpation it felt much like the mammary gland. Dr. Levis believed it to be a fibro-fatty growth, not connected with the cord or testicle, and probably outside of the vaginal tunic.

Dr. S. W. Gross believed it to be a fibro-fatty tumor of the spermatic cord, which had grown downwards. As far as his knowledge went, it was not likely to be an intrascrotal growth without being connected with the cord. Myomata, sarcomata, and fibromata are the forms of tumor that occur in the scrotum.

TRAUMATIC HERNIA OF THE BLADDER.

Dr. Morton presented a patient with traumatic hernia of the bladder, and read the following history of the case:

Jacob S., aged 34, single, was admitted into the Pennsylvania Hospital January 26, 1881. At the age of ten years he had sustained, by a machinery crush, a compound and comminuted fracture of the right pelvis, with dislocation and fracture of the head of the femur on the same side; the wound which communicated with the broken ilium extended from the anterior superior spinous process along the line of the groin and perineum, and involved the base of the bladder and outlet of the rectum; immense sloughing followed, from urinary infiltration, and subsequently erysipelas was developed. From the time of the accident up to 1868, fragments of bone continued to be thrown off, and the major portion of the pubis came away entire, as did also the head of the femur, split, however, in three pieces; consolidation of the shaft of the bone took place at an angle, on the dorsum ilii, with great shortening of the limb and immense atrophy; the wound in the groin and perineum closed up, except near the rectum, where a portion of the bladder protruded soon after the injury and has so continued to the present time, and from which opening all the urine is discharged, none having since the injury passed through the urethra; the outlet of the rectum in front is somewhat constricted by a band of tissue which extends across the perineum; but behind this bridge of skin the bladder and rectum open into each other.

The patient has since his recovery enjoyed the best of health, and is engaged in laborious work. An examination of the urethra shows it to be patulous to the neck of the bladder where the urethra is abruptly shut off, and at this place in the perineum the rupture of the bladder occurred. The patient is able to retain most of the urine, and does not suffer at all from incontinence, from the fact that the bladder falls forward and to the right side and fills up the space formerly occupied by the bony pelvis. He has no difficulty with the bowels unless when suffering from diarrhœa. He has ordinary venereal desire, but the discharges of semen pass through the vesical opening in the perineum. No operation was deemed advisable.

DEATH AFTER SOUNDING FOR VESICAL CALCULUS.

Dr. William Hunt showed a bladder and calculus removed from a man, aged 18 years, who had died at the Pennsylvania Hospital. The patient was admitted with symptoms of stone in the bladder, and was generally in a poor condition of health; he had never been sounded. The resident surgeon introduced a sound and discovered the calculus. On the day after the patient's admission, before Dr. Hunt had made his visit, death took place, without the occurrence of chill or fever, but apparently from profound nervous shock. The autopsy was partial, as permission could not be obtained to examine the kidneys or

chest. The patient, however, presented no œdema of the legs, nor had he had any convulsive seizures.

Dr. T. G. Morton thought it possible that the death had no connection with the examination of the bladder with the sound, but occurred from exhaustion due to prolonged suffering. He knew of an instance of death taking place after catheterization; but then chill and other symptoms of urethral fever had presented themselves.

JOHN B. ROBERTS, M.D.,
Recorder.

REVIEWS AND BOOK NOTICES.

A MANUAL OF DISEASES OF THE THROAT AND NOSE. By FRANCKE HUNTINGTON BOSWORTH, A.M., M.D., Lecturer on Diseases of the Throat in the Bellevue Hospital Medical College, and Physician-in-Charge of the Clinic for Diseases of the Throat in the Out-Door Department of Bellevue Hospital; Fellow of the New York Academy of Medicine, of the American Laryngological Association, and Member of the Medical Society of the County of New York. William Wood & Co., New York, 1881. 8vo, pp. xx, 427.

The rapid production of special works upon diseases of the throat and nasal passages, which have followed each other so closely during the past few months, is evidence of great attention to this special subject. The volume before us is from the pen of the Lecturer on Diseases of the Throat in Bellevue Hospital Medical College, New York, and is, as we glean from the preface, chiefly the outcome of an extensive personal experience. It treats of nearly all the affections which are apt to be brought to the notice of specialists in throat diseases. It is copiously illustrated, being particularly rich in pictures of instruments, supplied by an instrument-maker, to whose advertisement even several of the explanatory cuts in the use of instruments are made subservient. Of the illustrations of healthy and diseased structures a few are original, and these, as well as the remainder, have been selected with considerable care and judgment. The text is abundantly interspersed with working formulæ for treatment, mechanical and systemic; in addition to which there is an appendix of ten pages entirely devoted to the same subject. Although attention is prominently drawn to the author's individuality, we fail to perceive any preponderance of personal peculiarity in treatment, save in the condition of laryngeal phthisis. Even in the discussion of the treatment of bilateral paralysis of the abductors we have failed to read a line justifying the author's comment in his preface, that he has designedly treated of this and other subjects at considerable length "with the object of introducing personal views and methods of treatment which are not given in other works." We are of the opinion that all authors call prominent attention to the necessity of tracheotomy in the great majority of these cases.

Although the instructions for making laryngoscopic examinations are, as a rule, reliable and judicious, we are surprised to notice frequent inaccuracies of expression and uncorrected errors of reference, which detract very much from the value of the text. Thus, on the very first page, the laryngeal mirror is described in one sentence as attached to a slender wire stem, and in the very next sentence a stout stem is recommended. In the delineations of laryngoscopic mirrors we find two which are actually obsolete: one of them, probably, never having been used outside of Tübingen, where it originated. The author evidently prefers the naked gas-light and the simple reflector to all other methods of illumination. In commenting on the Tobold apparatus, he states that he has never been able to determine the optical principle upon which it has been employed; to learn which it would have been simply necessary to consult the formulæ printed in Tobold's own book. We are surprised, too, to see it asserted that it is usually taught that the laryngoscopic image in the mirror is reversed, when, in fact, all writers take especial care to teach the opposite. The average American student, we imagine, will be somewhat puzzled over the admirable enlarged view of the laryngoscopic image, without a line in text or description to anglicize the Latin terms imprinted in portions of the figure. On the same page, too, on this self-same very important subject of the laryngoscopic image, are a couple of incorrect references to illustrations,—an unfortunate oversight, the correction of which has been likewise overlooked in other portions of the volume. This is evidently the result simply of overcrowding with pictures accumulating at odd times, a circumstance accounting, probably, for a cut of something else instead of a powder-insufflator, and for a few similar inaccuracies that have caught our attention in running through the volume.

It would have been courteous to the memory of a much-abused man to have intimated that Dr. Green's skill in introducing the probang into the larynx and trachea had been demonstrated as well as "called in question." None should know better than the author that this procedure is practicable. Dr. Bosworth announces himself as a great advocate for the use of sprays instead of applications by brush and sponge. Although he has called in question the skill of a master in manipulating within the larynx without the aid of the laryngoscopic mirror, he dispenses with its aid himself in applying sprays to the larynx. Did he use the mirror he would see that in many instances his sprays do not get into the larynx at all. For accuracy of intralaryngeal

medication the mirror, in our opinion, should always be employed as a guide to the hand, except in those rare instances in which an unusually high and elevated epiglottis, visible on ordinary inspection of the throat, renders the use of the mirror superfluous. When the sprays do get into the larynx—unless the object is merely to flood the upper surface of the vocal cords during phonation—they are apt to go straight down the trachea, without touching the sides of the larynx at all, especially if propelled by the strong current of compressed air recommended in the text. On the other hand, a fragment of soft sponge introduced within the laryngeal cavity is brought in contact with its walls by the spasmodic action which it excites, and is thus a much more accurate means of application, and one that is much more limited in its action. Of course the larynx and trachea are not to be swabbed out as if the structure were a chimney-flue. But, with due care and skill, the sponge and even the brush are far more effectual chirurgical implements than the spray-producer, which has its uses, however, in the management of many affections of the throat and nasal passages.

The hygienic rules advocated by Dr. Bosworth are excellent and well intended, though the evils attributed to certain articles of apparel appear to us much too far-fetched.

The article on "taking cold" is a good one. Rather a curious line of argumentation, recalling our childhood's stories, is presented to favor the author's belief that a catarrh of the upper air-passages will lead to the eventual development of lung disorders,—a belief in which he differs from the majority of matured observers. Thus, he states, "there can be no question that an individual suffering from a chronic laryngeal catarrh is far more liable to an attack of tracheitis;" "one suffering from a tracheitis is far more susceptible to a bronchitis," "and so on down to the deeper lung-tissues." Why, few observations are more general than that the bronchitis of the aged existed for years without ever impairing the deeper structures; and surely the author's experience must have shown him many a case of confirmed laryngo-tracheitis of long standing without any history of intercurrent bronchitis.

To turn now to the descriptions of diseases and their remedies. Descriptions of diseases are sufficiently minute, without being prolix. The chief points of pathological interest are fairly indicated, and hypothetic speculation is avoided. The therapeutic resources are more minutely laid down than has been the case in the majority of works published upon the same subjects, the choice of a number of formulæ being presented in connection with nearly every therapeutic commendation. The author's views on laryngeal phthisis are peculiar, and he claims much greater success in its treatment than other authors, even to the habitual cicatrization of the phthisical ulcerations. As this subject has been fully presented in the medical journals, we need not go into details here, but merely state that the chief peculiarity of the author's local treatment consists in thorough cleansing of the parts, followed by the application in succession of astringents, anodynes, and iodoform. His success is certainly exceptional.

In connection with the subject of syphilis, the author has, in two instances, recognized the mucous patch upon the ventricular bands. These are stated to be the only cases in which he has felt convinced of the presence of the mucous patch in the larynx. A combination of local cauterization by the fused nitrate of silver, followed by the application of iodoform to the cauterized surface, has proved more effective in the author's hands in the management of these patches than any other remedial resource. He acknowledges the importance of the internal administration of mercury, thereby coinciding with the majority of writers on the subject, in contrast to the almost isolated position of Mackenzie. We find frequent evidence of endorsement of the value of the local action of morphia in obtunding the pain of ulcerative conditions of the larynx from whatever cause.

The author appears to find less difficulty in distinguishing the ulcers produced by syphilitic, tuberculous, or carcinomatous influence, and presents a table detailing their distinguishing characteristics. There is a well-illustrated description of the methods of overcoming cicatricial stenosis of the larynx, and a fair exposition of the subject of extirpation of the larynx. The latter contains a larger collation of cases than has been previously published. Unfortunately, no references are given to the original reports. And in fact, except in connection with the subject of bilateral paralysis of the abductors of the larynx, we have failed to come across a single reference. In conclusion, while conceding the value of this volume as an expression of the author's opinions and practice, we must acknowledge that it is both too meagre for a treatise and too extensive for a manual. A good manual or working volume on diseases of the throat and nasal passages, adapted to the requirements of the young or inexperienced physician, has yet to be written. J. S. C.

A Practical Treatise on Surgical Diagnosis. Designed as a Manual for Practitioners and Students. By Ambrose L. Ranney, A.M., M.D., Adjunct Professor of Anatomy, and late Lecturer on the Surgical Diseases of the Genito-Urinary Organs and on Minor Surgery, in the Medical Department of the University of the City of New York, etc., etc. New York, William Wood & Co. Second Edition, pp. 471.

The author has, as we conceive, undertaken a task such as no man can satisfactorily carry

out in the way he has mapped out for himself. We regret that there seems to be such a demand for works like the present, as is shown by the issue of this second edition of Dr. Ranney's book. This work is too much like the "royal roads to knowledge" which are so much in vogue nowadays, and which in most instances the readers find to be "royal roads to error,"—or, in other words, they will discover that no one can successfully arrive at a correct diagnosis by reading over a table of diagnostic points disassociated from the etiology, pathology, and history of the disease. We are opposed to works like the present, believing them to be pernicious in their tendency. The only way to write a useful work on surgical diagnosis is to write a concise text-book on the science of surgery, omitting merely prognosis. A work like Da Costa's in surgery *might* be useful, although we think that any good surgical text-book is all a student or practitioner needs; but one like the present, where a differential diagnosis is to be founded on such distinctions as "sometimes," "usually," "often," "if," etc., can scarcely be satisfactory. Let no one imagine that we do not know the impossibility of not using such terms as the above; but they should, and can, have appended to them the reasons for such exceptions, or why one symptom is "sometimes" present in one case, while in another apparently identical one it is absent. In fine, to render such a complicated subject as surgical diagnosis clear, a certain amount of knowledge of the etiology, pathology, etc., of the disease is essential. This information cannot be incorporated in a table, and for that reason we think the plan a mistake. Having thus far pursued the ungrateful task of condemnation, let us see wherein the work is worthy of praise. In the first place, its author must have appreciated the force of what we have just said, since we understand that much more explanatory text has been introduced in this edition at the opening of each chapter. In so far as this goes it is good. What is given in the text, we confess, in the main is satisfactory, although where pathology is mentioned the views are not always thoroughly orthodox.

The style, too, is quite up to the average. The diagnostic points in the various tables are excellent, and do the author credit. In fine, while we cannot think that the work can possibly be a thoroughly good book for students, it may prove of use to the busy practitioner as a refresher of his memory. The practitioner can mentally supply the missing links which the salient points will serve to recall, but the student who is without that prerequisite information will be only too apt to be satisfied with this royal access to knowledge, which must prove but a broken reed in time of trouble. Used as we have just indicated, and by graduates, we would qualifiedly recommend it, although we reiterate our former statement that a good text-book is a better one to read when in doubt about any case. To the student we would say, Remember the old adage, "The longest way around is the shortest way home."

C. B. N.

A GUIDE TO THE EXAMINATION OF THE URINE. Designed chiefly for the Use of Clinical Clerks and Students. By J. WICKHAM LEGG, M.D. Fifth Edition. Philadelphia, Presley Blakiston, 1880. 16mo, pp. 110.

HAND-BOOK OF SYSTEMATIC URINARY ANALYSIS, CHEMICAL AND MICROSCOPICAL. For the Use of Physicians, Medical Students, and Clinical Assistants. By FRANK M. DEEMS, M.D. New York, Industrial Publication Company, 1880. 16mo, pp. 30.

HOW A PERSON THREATENED OR AFFECTED WITH BRIGHT'S DISEASE OUGHT TO LIVE. By JOSEPH EDWARDS, M.D. Philadelphia, Presley Blakiston, 1880. 16mo, pp. 87.

Dr. Legg's little book, having reached the fifth edition, is too well known to require any extended notice. The present edition has been carefully revised.

The hand-book of Dr. Deems is really a convenient collection of tables arranged in sections, in which are succinctly given the principal facts as to the general physical characters of the urine and directions for testing for its normal and abnormal constituents. All essential directions seem to be included, and among them are some practical hints we have not seen elsewhere. Among these are the directions for decolorizing urine before testing for sugar, according to which a tablespoonful of animal charcoal and a pinch of sodium carbonate are added to two ounces of urine in a bottle, the mixture shaken for five or ten minutes, and filtered. Again, "Hold the urinometer-cylinder obliquely, when filling it, to avoid a foam," obviates a troublesome occurrence by which time is often lost. The little contrivance the object of which is to serve at the same time as a urinometer-glass and a collector of sediment is the best yet suggested, but, as the measures described to secure cleanliness are absolutely essential, we question whether there is much economy of time in its use as compared with that of the usual conical glasses and pipettes. We would suggest that those, at least, who make many examinations should have a couple of the modified burettes and stand, as well as extra pieces of gum tubing and attached glass jets. In this manner a clean one could be always at hand.

The little book has the advantage of being inexpensive as well as reliable.

The third book on the list, by Dr. Edwards, "How a Person affected with Bright's Disease ought to Live," is not written for the professional reader, but might be read by him with advantage, containing, as it does, many valu-

able suggestions, although we cannot agree with the writer in all his recommendations,—as, for example, the total proscription of alcohol and diuretics. We do not think alcohol has directly caused many cases of Bright's disease, and in moderate quantity freely diluted it cannot do any direct harm as long as the liver and lungs remain as a bulwark between the stomach and kidneys. It is true that the free consumption of alcohol, by producing gastritis and interfering with digestion, prevents proper assimilation, and thus indirectly affects the kidneys unfavorably, and if very large amounts are ingested, some will pass through the liver and lungs unoxidized and irritate the kidneys. Not so with moderate quantities freely diluted. Again, with regard to diuretics. While stimulating diuretics are harmful, such as act by increasing blood-pressure from behind, as digitalis, diluents, and the vegetable alkalies, are harmless, and often necessary to remove the dropsy which is so frequent a symptom. J. T.

GLEANINGS FROM EXCHANGES.

BACKACHE—ITS CAUSES.—Dr. George Johnson (*Brit. Med. Jour.*, vol. i., 1881, p. 221) says that in the great majority of cases the pain of backache has its seat in the muscles, and is a simple result of strain or over-fatigue of the lumbar and erectores spinæ muscles and tendons. A remarkable feature of the pain resulting from excessive muscular exercise is that, while it may continue more or less during rest in bed, it is usually much increased by the first movements after rest, but gradually diminishes after moderate exercise. In muscular lumbago, standing is more fatiguing for the back and legs than walking, and leaning forward puts a greater strain on the muscles of the back than standing erect. Pain is often more severe on one side than on the other, owing to the common practice of throwing the weight more on one leg than on the other. A common cause of painful overstrain in the dorsal muscles is an excessive weight in the abdomen, whether from advanced pregnancy, dropsy, or excessive development of fat. Dr. Johnson, in speaking of these causes, incidentally gives the dietary advisable in obesity. He also calls attention to dyspeptic myalgia resulting from malnutrition of the muscle. "Growing-pains," Dr. Johnson thinks, are due to excessive muscular exercise, and are to be cured by rest. Sudden pain is sometimes caused by cramp or rupture of some fibres of the muscle during contraction. Indigestible foods sometimes cause cramps in muscles in certain individuals instead of cramps in the stomach. Cold, as is well known, is a frequent cause of pains in other muscles besides those of the back. For lumbago Dr. Johnson recommends hot air or Turkish baths, followed by vigorous shampooing; also an embrocation composed of equal parts of linimentum belladonnæ and linimentum opii.

Other causes of backache are aneurism of the aorta, the symptoms of which Dr. Johnson gives at some length, with illustrative cases; cancerous glands in the abdomen; diseases of the kidneys; gastric ulcer; uterine diseases; diseases of the bones of the spine and of the spinal cord; and, finally, the backache of commencing fevers.

NEW FACTS REGARDING THE USE OF THE BROMIDES IN EPILEPSY.—Dr. A. Hughes Bennett (*Edin. Med. Jour.*, February, 1881, p. 706) says that the general circumstances of the individual are to be studied; his diet, hygiene, surroundings, habits, etc., if faulty, are, when practicable, to be improved. The bromides, when ordered, are to be taken without intermission. The minimum quantity for an adult to begin with is thirty grains three times a day,—the first dose half an hour before rising in the morning, the second in the middle of the day, on an empty stomach, and the third at bedtime. This is continued for a fortnight, and, if with success, is persevered with, according to circumstances, for a period varying from two to six months. If, on the other hand, the attacks are not materially diminished in frequency, the dose is immediately increased by ten grains at a time until the paroxysms are arrested. In this way as much as sixty to eighty grains thrice daily have been administered by Dr. Bennett, and, with one or two isolated exceptions, he has never found a case which resisted the treatment. He has never seen any really serious symptoms of poisoning or injury to the general health. Sometimes these amounts must be continued, but oftener it is better to diminish to that dose which will keep the attacks in check without seriously interfering with the patient's health. His experience with three hundred cases (of which he gives tables) has been so favorable as to lead him to believe epilepsy, of all chronic nervous diseases, is the one most amenable to treatment. Dr. Bennett's favorite prescription is as follows:

℞ Potass. bromid.,
Ammon. bromid., ää gr. xv;
Sp. ammon. aromat., f℥ss;
Infus. quassiæ ad f℥i.—M.
Sig.—Thrice daily.

HEADACHES OF CHILDHOOD.—Dr. William Lee read a paper on this subject before the Clinical Society of Maryland (*N. Y. Med. Rec.*, vol. i., 1881, p. 303), in which he said that headache among school-children is apt to be hereditary, and is especially to be traced to confinement and over-study at a time of life when the brain is still undeveloped. Its causes are (1) overtaxing the brain; (2) gastric and intestinal disturbance, worms; (3) anæmia (from malaria, etc.), producing neu-

ralgia or nervous headache. Monobromide of camphor, he thought, gave the best results in the first class of cases. In sick-headache, the second variety, fluid extract of guarana (especially if the patient be kept at rest after using,—a very important precaution) and nux vomica are the most efficient remedies; the latter is a most important remedy. The third variety may be due to teething. A general tonic plan, including valerianate of zinc, may be used here. In malarial headaches, Fowler's solution and dialyzed iron give the best results. In the discussion following the reading of the paper, attention was drawn to the fact that optical headaches had been omitted, also headaches from defective ventilation.

THE CROTON-OIL TREATMENT IN RINGWORM.—The croton-oil treatment, as it is called, which has recently been brought prominently to the notice of the profession by Dr. Alder Smith, is one with which every practitioner who may have charge of an institution where numbers of children are brought together should be familiar. It appears to be the best method of extirpating ringworm of the scalp in institutions yet devised. Dr. Liveing (*Brit. Med. Jour.*, vol. i., 1881, p. 227) calls further attention to this method of treatment, and says that those who wish to use croton oil with safety and success should adopt the following rules, which are, perhaps, a little on the side of caution. 1. Not to use it for children under ten years of age. 2. Never to apply it at any one time to a surface larger than a florin. 3. To use it only in chronic cases which will not yield to ordinary treatment. 4. To use it only with the consent of the patient's friends, the nature of the treatment and the effect of the croton oil on the skin being first fully explained. If the last rule be not carried out, parents are apt to think their children are being over-treated.

SUPPURATION OF ENLARGED THYROID.—Spontaneous suppuration of a goitre, says the *Lancet*, is one of the least common terminations. An instance in which this occurred during the course of an attack of typhoid fever, in a case under Dr. Jaccoud's care, is recorded by Weill. The patient, a man of 22, had a goitre of moderate size and firm consistence. He had lived until within four months in a district where goitre is endemic. The attack of typhoid fever ran a normal and mild course. The day after the temperature had become natural he complained of severe pain in the neck, and the surface of the goitre was observed to be reddened. During the next day the redness and size of the goitre increased, and its consistence diminished until distinct fluctuation was perceptible. A week later it was incised, and a large quantity of pus escaped. A drainage-tube was applied, and the cavity was washed out daily with carbolic acid. It gradually lessened in size, and was ultimately reduced to two or three small nodules by the side of the larynx.

THE PHARMACOLOGY OF CHLORAL HYDRATE.—M. Dmitrieff states that he has tested the effect of chloral hydrate, both clinically and experimentally, on unhealthy, badly-granulating wounds. By excision of a piece of skin in dogs and infection of the wound with putrefying matter, he produced unhealthy ulcerating surfaces. Some of these he dressed with one or two per cent. solution of chloral hydrate, while the rest were simply covered with a moist cloth. The first very soon became healthy, and cicatrized before the others. The ulcers, on microscopic examination, were found covered with a layer of micrococci, which disappeared after two or three days' dressing with chloral hydrate. These results were confirmed clinically; and the writer has also shown that an equal quantity of a one per cent. solution of chloral hydrate destroyed in twenty minutes all mobility of the bacteria in a putrefying infusion of flesh. —*Brit. Med. Jour.*, vol. i., 1881, p. 48.

CHILBLAINS.—A correspondent of the *British Medical Journal* having written to inquire as to the best treatment of this ailment, he is advised by one writer in reply to use cold bathing, loose boots with thick stockings, and applications of nitrate of silver if the surface is unbroken. Another writer suggests sponging with the negative pole of a galvanic battery, the current being as strong as can be borne. Another recommends liniment of aconite. Other recommendations are: an ointment of lard and dry mustard rubbed in before a fire for twenty minutes at night; painting with flexible collodion; sponging with very hot water; strong solution of acetate of lead; sulphurous acid; and, finally, the following: curd soap, ℥i; water, ℥iv; dissolve with heat, and add gum camphor, ℥iv; rectified spirits, ℥vi; essence of bergamot, ℈ij; liq. ammoniæ fort., ℥vi. Make into a liniment to be rubbed in.

CERTAIN PHYSIOLOGICAL EFFECTS OF STRETCHING THE SCIATIC NERVE. — Prof. Brown-Séquard (*Lancet*, vol. i., 1881, p. 206) has made some experiments on nerve-stretching in guinea-pigs. It is known that, in these animals, transversal hemisection of the dorsal spinal cord is followed by decided hyperæsthesia, with considerable paralysis, in the posterior limb on the corresponding side, while there is a marked degree of anæsthesia (and even sometimes a complete loss of feeling) in the posterior limb on the side opposite to that of the lesion. Rabbits are about the same, while in dogs the hyperæsthesia and anæsthesia are not so well marked. In Dr. Brown-Séquard's experiments eleven guinea-pigs were thus operated upon; the upper part of the sciatic nerve of the operated side was then stretched. In eight of the animals considerable return of sensibility in the limb operated upon occurred within a short time. In three

animals no change took place, but in two of these more than half of the cord had been cut. Hyperæsthesia took the place of anæsthesia in some of the eight animals, and even the hyperæsthesia of the opposite limb increased.

The experiments on rabbits did not give clear results. One dog experimented upon showed not only return of sensibility and hyperæsthesia on the side of the stretched nerve, but increase of hyperæsthesia on the other side as well, with loss of voluntary motion on both sides. Dr. Brown-Séquard thinks the cord itself is affected, and draws conclusions from these experiments unfavorable to the operation of nerve-stretching in locomotor ataxy.

INGLUVIN.—Dr. Dabbs (*British Medical Journal*, vol. i., 1881, p. 86) does not find it best to give ingluvin before meals in dyspepsia, the vomiting of pregnancy, etc., nor is it necessary to give it thrice daily. He gives ten grains in water as early as possible in the morning, say 5 or 6 A.M. At 8 or 9 A.M. fifteen grains more are given, and an hour after this second dose a breakfast of iced soda-water and milk with dry toast is taken. On the second morning fifteen grains are given very early, and twenty grains later (before food is taken); on the third day twenty grains are given at each dose, and by this time the vomiting has probably ceased, and the ingluvin may be taken thrice daily in ten-grain doses. In the atonic dyspepsia of early phthisis Dr. Dabbs considers ingluvin particularly valuable.

TOLERATION OF OPIUM IN THE INFANT.—Dr. J. Mackenzie Booth writes to the *British Medical Journal*, November 13, 1880, describing the case of an infant to whom opium was given for colic in increasing doses until, at the age of four months, the infant was getting, in drachm doses, from six to eight drachms of laudanum in the twenty-four hours. On coming under Dr. Booth's care, he was extremely emaciated, but gradually recovered on taking away the opium by degrees and giving nourishing food and cod-liver oil.

GRANULAR PHARYNGITIS.—The anatomical characters of so-called "granular pharyngitis" have been made the subject of investigation by Dr. Saalfeld, of Stettin (*Virchow's Archiv; Med. Times and Gaz.*, 1880, p. 570). Dr. Saalfeld finds that the essential pathological changes in this form of sore throat consist in an increase of the lymphatic tissue of the mucous membrane around the duct of an hypertrophied mucous gland, that portion of the duct being dilated which lies in the thickened tissue.

KELOID OF THE EXTREMITY OF THE EAR.—Dr. Axel Key (*Hygieia; British Medical Journal*, vol. ii., 1880, p. 808) gives a case where keloid growths had arisen from the scars of perforations made for the purpose of introducing ear-rings. Eight times in twenty years these growths had been extirpated and had returned. When last taken away, the tumor had one and a few tenths inches in breadth and a little more than one and a half inches in length. It projected in a round form from above the surrounding skin, from which it was sharply defined. It was everywhere hard, firm, and elastic, and presented, on section, the appearance of firm connective tissue, with a gray-white surface traversed by a net-work of whitish fibres.

A NEW REMEDY IN PRURITUS.—Dr. L. D. Bulkley (*New York Med. Jour.*, 1881, p. 30) uses gelseminum. Beginning with ten drops of the tincture, if in half an hour the itching is not relieved, and there are no toxic symptoms, as languor, the remedy is repeated in the dose of twelve or fifteen drops, and so on until results are obtained, or until a drachm or so has been taken in two hours. He has never pushed it to any of the severer symptoms, and has often found relief after the first dose.

REMEDIES FOR CHILBLAINS.—The following formula for Dr. Valentine Mott's remedy is given in the Proceedings of the Medical Society of the County of Kings:

℞ Beef's gall, ℥iv;
Ol. terebinth., ℥iv;
Spt. vini rect., 90 per cent., ℥iss;
Tinct. opii, ℥i.

Another formula for the same affection is,—

℞ Beef brine, Oj;
Potassæ nitratis, ℥ij;
Aquæ ammoniæ, ℥iij.

CORRIGAN'S BUTTON IN RESTORING THE HEART'S ACTION.—Dr. Mullin writes to the *British Medical Journal* urging the use of the simple and efficient instrument known as Corrigan's button. He does not describe this instrument, but says that an ordinary metal spoon or iron key, warmed in the flame of a candle or gas-jet, might be used. It should be heated till the finger can just bear it, and then used to give a few short, sharp taps over the region of the heart. Two incentives to arouse the action of the heart are thus given,—the effects of the tapping itself and the shock of quickly-applied heat,—more potent, perhaps, than electricity.

ASTHMA TREATED BY LOCAL APPLICATION OF IODINE.—A correspondent of the *British Medical Journal* had a very severe and chronic case of asthma under his care, for the relief of which he painted over the line of both pneumogastric nerves with iodine liniment,—full strength. This proving too strong, an application of half strength was substituted for it and applied for the next two days, at night, and subsequently less frequently. The patient's condition improved greatly. No medicine was used internally.

ASSOCIATION OF TONSILLITIS AND RHEUMATISM.—A correspondent of the *Lancet* calls attention to the fact, sometimes forgotten, that in certain members of arthritic families tonsillitis occasionally appears to take the place

of the articular affection. He has sometimes endeavored to treat tonsillitis by the abortive process, with the result of laying up his patient with subacute rheumatism. Under these circumstances he believes Dr. Liveing's suggestion of giving colchicum a good trial in recurrent quinsy to be a good one.

SCLERODERMA INFANTUM.—Under this name a correspondent of the *British Medical Journal* (vol. i., 1881, p. 192) describes the case of a newly-born seven months' child whose skin was hard, leathery, and tense (so much so that the legs could not be straightened), and on no part of the body could the skin be pinched up. With artificial respiration it was brought to give one or two faint gasps, but then died. No post-mortem examination was made.

IODINE A SUBSTITUTE FOR QUINIA.—Dr. Grinnell says (*Canada Medical and Surgical Journal*, 1880) that, given boldly,—*i.e.*, in doses of ten to twelve drops of the tincture in half a glass of sweetened water every eight hours,—iodine will never rank second to quinia in the treatment of intermittent fevers.

KAVA-KAVA is an efficient remedy in purulent inflammations of the urinary tract and in cystitis. In urethritis the following formula may be employed: sixty grammes of the fluid extract of kava-kava, two grammes of benzoic acid, and twelve grammes of powdered borax. Three teaspoonfuls daily.

QUEBRACHO has been used by J. R. Berkart as an efficient palliative in the dyspnœa of emphysema, atheroma, and fatty degeneration of the heart. Relief followed within three minutes after the exhibition of a teaspoonful of the fluid extract.—*Lancet*, vol. i., 1881, p. 75.

HOT-WATER COMPRESSES IN TETANUS AND TRISMUS.—Spoerer dips a large-enough piece of coarse flannel in water of a temperature which can just be borne by the hand, and applies the compress to the occiput and along the spine.—*Lancet*, vol. i., 1881, p. 75.

BLACK URINE IN ACUTE POISONING FROM CHLORATE OF POTASSIUM.—At a recent meeting of the Society of German Physicians (*New York Medical Record*, 1881, p. 23) Dr. Jacobi showed a sample of characteristically black urine voided by a patient who had been poisoned by overdoses of chlorate of potassium.

SYPHILITIC ELEPHANTIASIS.—At the same meeting Dr. Klotz showed a specimen of syphilitic elephantiasis of the leg, which he had exhibited at a previous meeting of the Society. The extensive necroses of the soft coverings of the leg were ascribed to the existence of an arteriitis obliterans. Last October the patient began to complain of rheumatoid pains in the hitherto unaffected leg of the left side. This was rapidly followed by extensive gangrene of the soft parts, showing that here also the vascular affection previously diagnosed had occurred. The patient was now gradually sinking into symptoms of slow septicæmia.

MISCELLANY.

IMPROVED COLD CREAM.—A correspondent of the *Chemist and Druggist* offers the following receipt:

"This formula for cold cream I have never published before, and I think it is really good in every way: at any rate, it meets with unsolicited encomiums from purchasers, and it gives myself more satisfaction than any I have tried. I have used it some years:

"℞ Cera alba, ℥ix;
Cetaceum, ℥ix;
Ol. amygdal., ℥xii;
Aqua, ℥vii;
Creta præcip., ℥i;
Otto rosæ, *ad lib.*;
Chloroform, gtt. xii.

"Put cera, cetaceum, aqua, creta præcip., together with half of the ol. amygd., melt in an earthenware vessel by water heat, stir in the other half of ol. amygd., and continue till cold. The more stirring, the better the result. Add otto and chloroform when cold."

[The addition of precipitated chalk and chloroform has the probable effect of preventing the preparation from becoming rancid. The chalk, through its saturating properties, neutralizes the acids, which by their presence are known to promote the peculiar fermentation causing the rancidity of fatty substances. The chloroform, owing to its antiseptic action, prevents the propagation of destructive germs. Both are unobjectionable for cosmetic purposes; but the carbonate of lime is not allowable in cold cream to be used medicinally.]—*Druggists' Circular.*

LONGEVITY IN THE "GOOD OLD TIMES."—There is one point which is too frequently overlooked by writers on historical cases of longevity,—the singular difference between our estimation of an old man and that of our forefathers. "Old John of Gaunt, time-honored Lancaster," died at 59; so did James I.; Henry VIII. only reached 53. The Huguenot admiral Coligny, whose "hoary hair, all dabbled o'er with blood," is mentioned by Macaulay, and whom his earlier biographer, Lord Huntington, represents as a very old man, was slain at 53, when, in these days of Moltkes, Gortschakoffs, Gladstones, Beaconsfields, Dufaures, Broughams, and Lyndhursts, a man is supposed to be rather on the juvenile side. In point of fact, for our ancestors a man of 50 was old; with us the limit is nearer 80. It is legitimately to be inferred from this fact, in the first place, that the average duration of human life was shorter in past time than it is nowadays; in the second, that the chances of error in accounts of alleged centenarians were infinitely greater,—that if a man of 80 or 85 called himself 100 or 110 his story would be exceedingly apt to be believed.—*The American.*

MIDWIFERY IN THE PARIS HOSPITALS.—The *British Medical Journal* says that lately

some scandalous facts have come to light relative to the working of the obstetrical department of the Paris hospitals. Pregnant women are usually admitted into the general wards, and attended by the physician or surgeon of the ward. No precaution is taken to guard the lying-in woman from infection: she may have lying on one side a patient dying of pyæmia, and on the other a case of diphtheria or scarlatina. The mortality is beyond anything reached elsewhere: it is a wonder any women escape with their lives. To entice women into hospitals, where they expect all the resources of medical science to be at their aid, and to give them treatment compared with which that of the most ignorant midwife would be immeasurably superior, is, indeed, a disgrace to civilization and to Paris. "We hope, for the sake of humanity," concludes the *Journal*, "that the municipal council of Paris will boldly and effectively wipe out this blood-stain of murdered women and children. In no other city in the world could such things happen."

CITRIC ACID TO RENDER WATER SAFELY POTABLE.—Dr. Langfeldt has experimented with a number of substances in studying their applicability to the purpose of destroying microscopic life in drinking-water. The most striking results he obtained from citric acid. Upon the addition of one part to two thousand, life ceased in from one-half to two minutes. Microscopic examination showed that those forms of animalcula supplied with a thick epithelial covering are not affected by this dilute citric acid, but only those with delicate coatings. But as the greater portion of these unwelcome visitors belong to the latter category, and as those of the former variety are visible to the naked eye, a solution of the above-mentioned strength (1 to 2000) will suffice as a safeguard. In about one minute after their death these animalcula settle to the bottom of the vessel containing the water, and can always be found in abundance in the sediment. As the solution of citric acid spoils so readily, Langfeldt advises that it should be freshly prepared every day. —*Druggists' Circular.*

WHALES were formerly counted as important aids to the fisheries of the North Sea coasts, by driving immense numbers of small fishes towards the land. Now, according to M. Bogdanoff, of the recent Russian North Sea expedition, since the whales have been pursued with steamers and bullets instead of sailing-vessels and the old harpoon, their destruction has greatly increased, and the number of small fishes coming to the coast has correspondingly diminished. The cod-fishing has been nearly extinguished in parts of the Varanger Fiord region in consequence of the presence of sharks, which, attracted by the fat thrown into the sea at Varanger, destroy the fish. Both of these instances illustrate the interdependence which exists among the different kinds of animals inhabiting the same region.

FOREIGN BODY IN THE INTESTINE.—A correspondent of the *Lancet* gives the case of a boy of 10 who accidentally swallowed a pin. He forgot all about the circumstance, and continued in good health during the subsequent four months. At the end of that time he came under treatment for slight tenesmus and pain on defecation,—symptoms which were relieved by a dose of castor oil. Four days later he thought he felt a bone in the lower bowel, and an examination then revealed a sharp-pointed black pin about one and one-quarter inches long, which had passed through the rectum and was piercing the skin half an inch to the right of the anus. Two days after the removal of the pin the parts were healed and the lad was well.

THE Thirty-Second Annual Meeting of the Pennsylvania State Medical Society will be held in the city of Lancaster on Wednesday, Thursday, and Friday, May 11, 12, and 13, 1881, commencing on Wednesday at 9 A.M.

OBITUARY.—Dr. Isaac Ray, the distinguished alienist, died, at his residence in this city, on Thursday, March 31, in the seventy-fourth year of his age.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MARCH 20 TO APRIL 2, 1881.

GIBSON, J. R., MAJOR AND SURGEON.—Relieved from duty at Fort McHenry, Md., and to report to the Commanding Officer, United States Barracks, Washington, D.C., for duty as Post-Surgeon. S. O. 52, Department of the East, March 22, 1881.

BROWN, H. E., MAJOR AND SURGEON.—Promoted from Assistant-Surgeon, vice Otis, deceased.

MEACHAM, F., CAPTAIN AND ASSISTANT-SURGEON.—To report for duty to the Commanding Officer, Fort Hamilton, New York Harbor. S. O. 52, c. s., Department of the East.

WOODRUFF, E., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, to proceed to New York City, and, by letter, report arrival to the Surgeon-General. S. O. 72, A. G. O., March 30, 1881.

AINSWORTH, F. C., CAPTAIN AND ASSISTANT-SURGEON (now awaiting orders in New York City).—To report in person to the Commanding General, Department of Texas, for assignment to duty.—S. O. 72, c. s., A. G. O.

WORTHINGTON, J. C., CAPTAIN AND ASSISTANT-SURGEON (now on leave of absence).—To report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 72, c. s., A. G. O.

REED, W., CAPTAIN AND ASSISTANT-SURGEON (awaiting orders at Fort McHenry, Md.).—To report to the Commanding Officer of that post for duty. S. O. 52, c. s, Department of the East.

PORTER, J. Y., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, to take effect from 6th proximo. S. O. 28, Department of the South, March 22, 1881.

SCHUÉ, E. D., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—When relieved at Fort Grant by Assistant-Surgeon J. B. Girard, to report in person to the Commanding Officer, Camp Thomas, A.T., for duty. S. O. 27, Department of Arizona, March 8, 1881.

KING, J. H. T., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him in S. O. 253, November 29, 1880, from A. G. O., is extended to June 30, 1881, and his resignation accepted by the President of the United States, to take effect June 30, 1881. S. O. 65, A. G. O., March 21, 1881.